

67-13

Proceedings of the American Academy of Arts and Sciences.

VOL. 67. NO. 13.—FEBRUARY, 1933.

RECORDS OF MEETINGS, 1931-32.

BIOGRAPHICAL NOTICES.

OFFICERS AND COMMITTEES FOR 1932-1933.

LIST OF THE FELLOWS AND FOREIGN HONORARY
MEMBERS.

STATUTES AND STANDING VOTES.

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1. BRIDGMAN, P. W.—Volume-Temperature-Pressure Relations for Several Non-Volatile Liquids. pp. 1-27. January, 1932. \$0.60.
2. BRIDGMAN, P. W.—Physical Properties of Single Crystal Magnesium. pp. 29-41. January, 1932. \$0.40.
3. BRUCE, H. ADDINGTON.—Sources of American Discontent. pp. 43-59. February, 1932. \$0.45.
4. HUNTINGTON, EDWARD V., AND ROSINGER, KURT E.—Postulates for Separation of Point-pairs. (Reversible Order on a Closed Line.) pp. 61-145. March, 1932. \$1.45.
5. HARRIS, ROBERT S., AND BUNKER, JOHN W. M.—Bacterial Detoxification. pp. 147-168. June, 1932. \$0.60.
6. ÖPIK, E.—Note on Stellar Perturbations of Nearly Parabolic Orbits. pp. 169-183. October, 1932. \$0.45.
7. BRUES, CHARLES T.—Further Studies on the Fauna of North American Hot Springs. pp. 185-303. December, 1932. \$1.85.
8. BRIDGMAN, P. W.—The Pressure Coefficient of Resistance of Fifteen Metals Down to Liquid Oxygen Temperatures. pp. 305-344. December, 1932. \$0.75.
9. BRIDGMAN, P. W.—The Compressibility of Eighteen Cubic Compounds. pp. 345-375. December, 1932. \$0.70.
10. HOWELL, A. BRAZIER.—The Saltatorial Rodent Dipodomys: The Functional and Comparative Anatomy of its Muscular and Osseous Systems. pp. 377-536. December, 1932. \$2.20.
11. SHAPLEY, MARTHA B.—The Eclipsing Binaries RW Arae and SW Ophiuchi. pp. 537-550. December, 1932. \$0.40.
12. SKAU, EVALD L.—The Purification and Physical Properties of Organic Compounds I. The Interpretation of Time-Temperature Curves in Freezing Point Determinations and as a Criterion of Purity. pp. 551-576. January, 1933. \$0.60.
13. RECORDS OF MEETINGS; Biographical Notices; Officers and Committees; List of Fellows and Foreign Honorary Members; Statutes and Standing Votes, etc. pp. 577-666. February, 1933. \$1.45.





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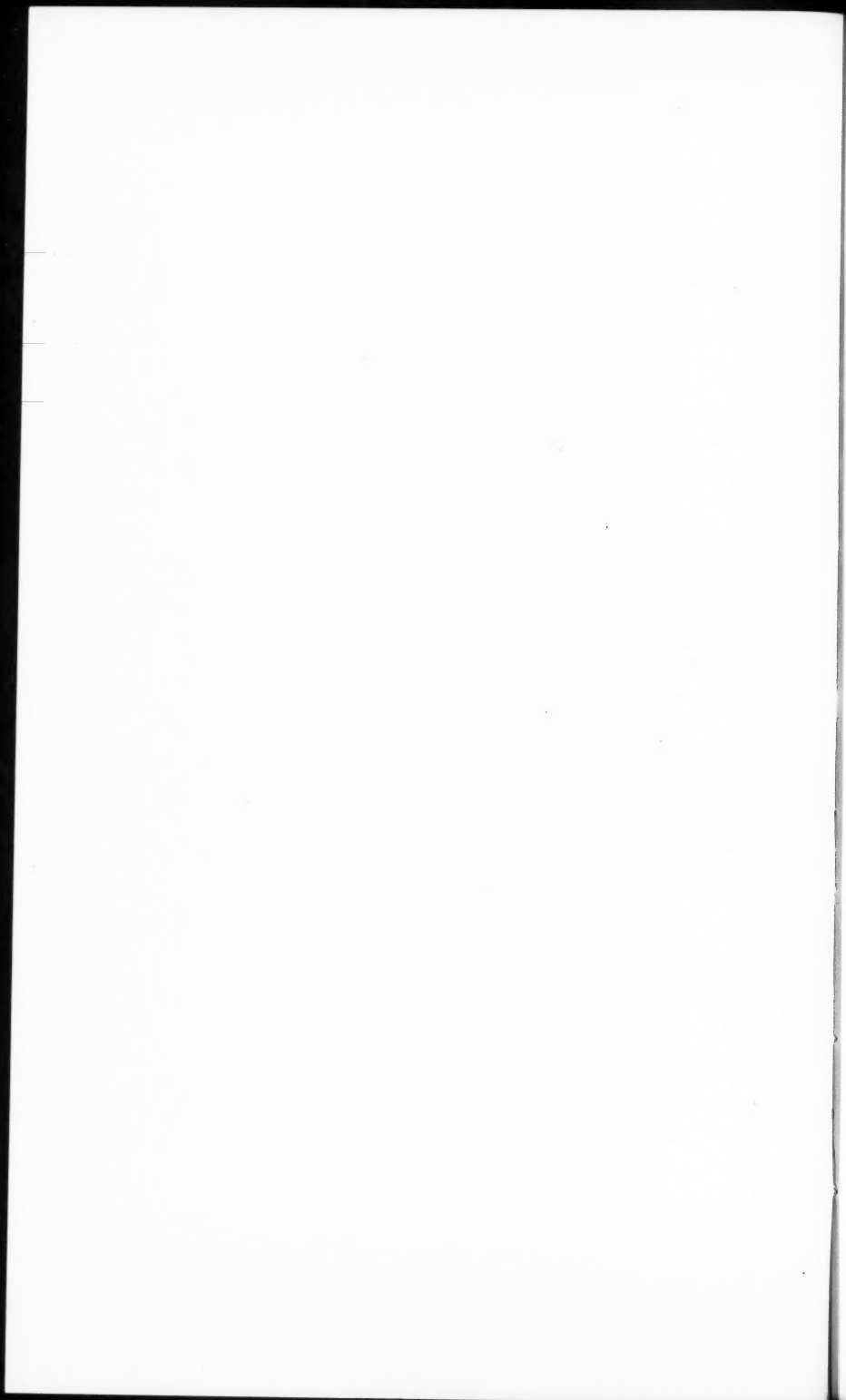
LIST OF THE FELLOWS AND FOREIGN HONORARY
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RECORDS OF MEETINGS.

One thousand one hundred and ninety-first meeting.

OCTOBER 14, 1931.—STATED MEETING.

The Academy met at its House at 8.25 P. M.

The PRESIDENT in the Chair.

There were present eighty-six Fellows and Associates and nine guests.

The records of the meeting of May 13 were read and approved.

It was announced that Mr. Robert P. Bigelow had been appointed Corresponding Secretary *pro tem.* in the absence on leave of Mr. Tenney L. Davis.

The Corresponding Secretary reported the receipt of letters accepting Fellowship from George W. Anderson, Edward C. Armstrong, Stephen V. Benét, C. Harold Berry, John D. Black, George Blumer, Roland W. Boyden, H. Addington Bruce, Richard C. Cabot, William B. Castle, Karl T. Compton, Melvin T. Copeland, Samuel H. Cross, William L. Crum, Eugene F. DuBois, Sidney B. Fay, Fred T. Field, James Ford, Robert Frost, William K. Gregory, George R. Harrison, Raymond D. Havens, Robert S. Hillyer, George L. Hosmer, Manley O. Hudson, Nathan Isaacs, Henry James, Truman L. Kelley, R. Bruce Lindsay, George F. McEwen, Francis P. Magoun, Jr., Paul Manship, Daniel G. Mason, Frank J. Mather, Wesley C. Mitchell, William DeW. Mitchell, Edmund M. Morgan, Kenneth B. Murdock, William A. Noyes, Jr., Otto Oldenberg, Herbert Parker, Thomas N. Perkins, Thomas R. Powell, Robert K. Root, George Rutledge, Henry K. Sherrill, Jeremiah Smith, Jr., Pitirim A. Sorokin, Oliver M. W. Sprague, Donald S. Tucker, Charles A. Weatherby, and George W. Wickersham; and of letters accepting Foreign Honorary Membership from Robert S. Conway, Ludwig Diels, Herbert A. L. Fisher, John Galsworthy, August Krogh, Sylvain Lévi, Antoine Meillet, Edgar A. Peers, Charles S. Terry, George M. Trevelyan, and Karl W. Wagner.

He announced that the Council had made the following grants from the Permanent Science Fund:

1. To Dr. Leonard S. Hsu, of the Princeton-Yenching Foundation, one thousand dollars, for researches on the population problems in China;

2. To Professor J. LeRoy Conel, of Boston University, two hundred dollars, for aid in financing a fishing expedition to collect naturally deposited eggs of *Myxine glutinosa* for embryological study;

3. To Professor Edgar Altenburg, of Rice Institute, Houston, Texas, five hundred dollars, to aid his researches on the effect of ultra-violet rays upon the germ-plasm of *Drosophila melanogaster*.

The Corresponding Secretary reported that the Academy had received from His Majesty the King of Siam a gift of the latest edition of the translation from the Pali into Siamese of the Phra Tripitaka, sacred Buddhist canon and commentaries thereon, and from His Excellency Chao Phya Abbai Raja a set of three volumes of the translation into Siamese of the Paramatthamanjusa Visuddhi Maggatika, commentaries on the Visuddhi-Magga, and that the President had addressed a letter to His Excellency the Siamese Minister to the United States asking that the thanks of the Academy be transmitted to the distinguished donors of these valuable gifts.

It was announced that the President had appointed delegates to represent the Academy as follows:

To the dedication of the Lakeside Hospital, Western Reserve University, at Cleveland, June 16, 1931, Dr. Thorald H. Sollmann;

To the inauguration of William Pearson Tolley as President of Allegheny College on October 9, 1931, Mr. George Wharton Pepper, who was obliged to decline;

To the centennial celebration of Denison University, on October 16-18, 1931, President Ernest H. Wilkins of Oberlin;

To the inauguration of Frank Porter Graham as President of the University of North Carolina on November 11, 1931, Professor William McDougall.

The Corresponding Secretary called attention to a printed announcement of the Ninth International Congress of Pure and Applied Chemistry to be convened at Madrid, April 3-10, 1932.

The President announced the death of seven Fellows:—Francis

Greenleaf Allinson (Class III, Section 2), Solon Irving Bailey (Class I, Section 1), Daniel Chester French (Class III, Section 4), Edward Skinner King (Class I, Section 1), Clifford Herschel Moore (Class III, Section 2), George Foot Moore (Class III, Section 2), George Fillmore Swain (Class I, Section 4); and of two Foreign Honorary Members:—Louis Dollo (Class II, Section 3) and Richard Wettstein (Class II, Section 2).

The Fellows elected in May were then presented to the Academy.

The Rumford Medals were presented to President Karl Taylor Compton of the Massachusetts Institute of Technology for researches in thermionics and spectroscopy, after an introduction by Mr. Arthur E. Kennelly, Chairman of the Rumford Committee.

The following communication was presented:

Mr. Karl T. Compton: "Thermionics as a Scientific Tool."

Five papers were read by title:

"Bermuda during the Ice Age," by Robert W. Sayles;

"On the Apsidal Motion of a Faint Eclipsing Binary," by Harlow Shapley;

"The Indigenous Linear-leaved North American Pondweeds of Potamogéton § Axillares," by M. L. Fernald;

"Physical Properties of Single Crystal Magnesium," by P. W. Bridgman;

"Volume-Temperature-Pressure Relations for Several Non-Volatile Liquids," by P. W. Bridgman.

The meeting was dissolved at 10.10 P. M.

One thousand one hundred and ninety-second meeting.

NOVEMBER 11, 1931.—STATED MEETING.

The Academy met at its House at 8.35 P. M.

The President in the Chair.

There were present thirty-two Fellows and Associates and one guest.

The records of the meeting of October 14 were read and approved.

The Corresponding Secretary reported the receipt of a letter from Mr. Paul Elmer More, accepting Fellowship, and of letters declining Fellowship from Messrs. Zechariah Chafee, Jr., and Calvin Coolidge.

He also made the following announcements from the Council:

That the vacancies in the Standing Committees had been filled as follows, until the next election:

Library Committee, William Y. Elliott, of Class III

House Committee, Davis R. Dewey, of Class III

Committee on Meetings, Charles J. Bullock, of Class III

That the Academy had been represented at the funerals of Dr. Samuel W. Stratton and Mr. Charles F. D. Belden, and that a letter of condolence had been sent to the family of Mr. Roland W. Boyden;

That Dr. Henry B. Bigelow had been appointed a delegate to represent the Academy at the Fifth Pacific Science Congress, to be held at Victoria and Vancouver probably in 1933;

That the Academy had received an invitation to be represented at the Seventh American Scientific Congress, to be held in Mexico City, February 5 to 19, 1932.

The Corresponding Secretary read a letter from H. A. Barton, Director, announcing the organization of the American Institute of Physics, through the coöperation of the American Physical Society, the Optical Society of America, the Acoustical Society of America, and the Society of Rheology.

The President announced the death of two Fellows:—Roland William Boyden (Class III, Section 1), and Samuel Wesley Stratton (Class I, Section 4); and of an Associate, Charles Francis Dorr Belden.

The President reported that he had received from the Secretary of the Commonwealth a certified copy, dated May 1, 1931, of the Act of the General Court, Chapter 255 of the Acts of 1931, approved April 29, 1931, amending the Charter of the Academy so that the number of Fellows who may be inhabitants of Massachusetts is increased from four hundred to six hundred.

On behalf of the Council the Corresponding Secretary presented two proposed amendments to the Statutes as follows:

1. Amendment to Chapter II, Article 1, as amended April 8, 1931:

After "Class IV, Section 2," strike out "History and Archaeology" and insert "History, Archaeology, and Anthropology."

2. Amendment to Chapter II, Article 5:

In line 2 after "dollars" insert "unless previously as an Associate he has paid an Admission Fee of like amount," so that the first paragraph of the article shall read:

Article 5. Every Fellow resident within fifty miles of Boston hereafter elected shall pay an Admission Fee of Ten Dollars, unless previously as an Associate he has paid an Admission Fee of like amount.

Mr. Edwin B. Wilson raised the point that these amendments were simply corrections of engrossing and therefore did not need to be referred to a committee to be reported at a subsequent meeting of the Academy. The point of order was sustained and it was

Voted, That the amendments be adopted.

The following communications were presented:

Dr. J. F. van Bemmelen, of Groningen: "Heredity of Mental Qualities in Man."

Mr. Edward K. Rand: "The Script of Tours."

The meeting was dissolved at 10.35 P. M.

One thousand one hundred and ninety-third meeting.

DECEMBER 9, 1931.—STATED MEETING.

The Academy met at its House at 8.30 P. M.

The PRESIDENT in the Chair.

There were present thirty-seven Fellows and Associates and eleven guests.

The records of the meeting of November 11 were read and approved.

The Corresponding Secretary reported that a letter had been received from the Permanent Secretary of the American Council of Learned Societies announcing that he had been authorized to include in the tentative budget for 1932 an item of \$1,500 as a second contribution from the American Council to the amount expended for the publication of three papers by Edward Sapir on native American languages as Volume 65 of the Proceedings of the Academy.

The President announced the death of two Fellows:—Clarence Lemuel Elisha Moore (Class I, Section 1) and Robert DeCourcy Ward (Class II, Section 1); and of one Foreign Honorary Member, John Briquet (Class II, Section 2).

The following communications were presented:

Dr. Harvey Cushing: "Experimental Gigantism."

Messrs. John W. M. Bunker, Nicholas A. Milas, and Robert S.

Harris: "The Use of Synthetic Organic Peroxides for the Cure of Experimental Rickets."

One paper was presented by title: "Postulates for Separation of Point-Pairs (Reversible Order on a Closed Line)," by E. V. Huntington and K. E. Rosinger.

The meeting was dissolved at 9.57 P. M.

One thousand one hundred and ninety-fourth meeting.

JANUARY 13, 1932.—STATED MEETING.

The Academy met at its House at 8.25 P. M.

The PRESIDENT in the Chair.

There were present thirty-eight Fellows and Associates.

The records of the meeting of December 9 were read and approved.

The Corresponding Secretary reported the receipt of a letter from Dr. Henry Jackson, resigning Fellowship, to take effect at the end of the current academic year; of three copies of a printed paper on the "Caffeine Effect of the Crest Uniformity of Muscular Fatigue Curves," by Professor Ralph H. Cheney, of Long Island University, embodying the results of a research aided by a grant from the Permanent Science Fund; and of a number of copies of a "Summary of Activities in 1931" of the American Council of Learned Societies.

The President announced the death of a Fellow, Richard Henry Dana (Class III, Section 4) and of an Associate, Frederick Pickering Cabot.

The following communication was presented:

Mr. H. Addington Bruce: "Sources of American Discontent."

The meeting was dissolved at 10.04 P. M.

One thousand one hundred and ninety-fifth meeting.

FEBRUARY 10, 1932.—STATED MEETING.

The Academy met at its House at 8.15 P. M.

The PRESIDENT in the Chair.

There were present forty-eight Fellows and Associates.

The records of the meeting of January 13 were read and approved.

The Corresponding Secretary reported the receipt of biographical memoirs of Ira Nelson Hollis, by L. S. Marks, and of Clarence L. E. Moore, by Philip Franklin; also the resignations from Fellowship of William H. Dunbar and Ralph Barton Perry.

The President announced the death of Arthur Anthony Macdonell, Foreign Honorary Member in Class IV, Section 3.

On recommendation of the Council, it was

Voted, To make a supplementary appropriation of \$300 from the income of the General Fund, for the expenses of the House.

The following communications were presented:

Mr. Kirk Bryan: "The Physical Features of Arid Lands as Illustrated in Arizona and New Mexico."

Mr. Arthur M. Schlesinger: "George Washington."

The meeting was dissolved at 9.40 P. M.

One thousand one hundred and ninety-sixth meeting.

MARCH 9, 1932.—STATED MEETING.

The Academy met at its House at 8.20 P. M.

The PRESIDENT in the Chair.

There were present thirty-five Fellows and Associates and two guests.

The records of the meeting of February 10 were read and approved.

The Corresponding Secretary announced the appointment of Messrs. Harry W. Tyler, George D. Birkhoff, and Marston Morse as delegates to the International Congress of Mathematicians at Zurich, September 4-12, 1932; and of Professor Arthur E. Kennelly to the National Academy's celebration of the One Hundredth Anniversary of the electrical discoveries of Joseph Henry, at Washington, on April 25, 1932.

He reported the receipt of a letter from Admiral William S. Sims, resigning Fellowship.

The President announced the death of one Fellow, William Wallace Fenn, Class IV, Section 1.

He also announced the appointment of the Nominating Committee:

Charles A. Kraus, of Class I
George R. Minot, of Class II
William C. Wait, of Class III
George H. Chase, of Class IV

On recommendation of the Council the following appropriations were made for the ensuing year:

From the income of the General Fund, \$7,950, to be used as follows:

for General and Meeting expenses	\$ 900
for Library expenses	2,000
for Books, Periodicals, and Binding.	1,400
for House expenses	2,700
for Treasurer's expenses.	950
	<u>\$7,950</u>

From the income of the Publication Funds, \$3,282.25, to be used for publication.

From the income of the Rumford Fund, \$3,696.07, to be used as follows:

for Research	\$2,250.00
for Books, Periodicals, and Binding.	350.00
for use at the discretion of the Committee.	1,096.07
	<u>\$3,696.07</u>

From the income of the C. M. Warren Fund, \$1,159, to be used at the discretion of the Committee.

The following communication was presented:

Mr. George H. Parker: "The Flow of Trophic Influences over Nerves."

The meeting was dissolved at 9.45 P. M.

One thousand one hundred and ninety-seventh meeting.

APRIL 13, 1932.—STATED MEETING.

The Academy met at its house at 8.25 P. M.

The PRESIDENT in the Chair.

There were present thirty-nine Fellows and Associates and four guests.

The records of the meeting of March 9 were read and approved.

The Corresponding Secretary announced the appointment of Mr. John D. Black as delegate to the Centenary Celebration of the University of Richmond, May 8-10, and of Monsignor James H. Ryan as delegate to the dedication of the Folger Shakespeare Library at Washington, April 23.

He also reported that the Council had reappointed Professor F. N. Robinson as delegate of the Academy to the American Council of Learned Societies for a term of four years.

The President announced the death of three Fellows:—Bernard Arthur Behrend (Class I, Section 4), Harvey Monroe Hall (Class II, Section 2), and Frederick Jackson Turner (Class IV, Section 2).

The following communication was presented:

Mr. Tenney L. Davis: "Chinese Alchemy."

The meeting was dissolved at 9.35 P. M.

One thousand one hundred and ninety-eighth meeting.

MAY 11, 1932.—ANNUAL MEETING.

The Academy met at its House at 8.20 P. M.

The PRESIDENT in the Chair.

There were present fifty-eight Fellows and three guests.

The records of the meeting of April 13 were read and approved.

The Corresponding Secretary announced that the Council had made the following grants from the Permanent Science Fund:

1. To Ralph E. Cleland, Goucher College, Baltimore, Md., \$300, to aid in a study of wild races of *Oenothera*.
2. To Joseph A. Cushman, Sharon, Mass., \$250, for a study of the foraminiferal faunas of Europe and America.
3. To Frederick L. Hisaw, University of Wisconsin, Madison, Wis., \$500, to aid in a study of the physiology of the endometrium of *Macacus rhesus* monkeys.
4. To W. J. Luyten, University of Minnesota, Minneapolis, \$300, to aid in a research concerning the motions of the stars.

5. To Reginald H. Painter, Kansas State College, Manhattan, \$125, for a taxonomic investigation of American Bombyliidae (Diptera) and publication of monographs in this field.

6. To James T. Penney, University of South Carolina, Columbia, \$300, for a study of the cellular behavior of sponges during the formation of gemmules and the formation of sponges from gemmules.

7. To Guilford B. Reed, Queen's University, Kingston, Ont., \$300, for the extension of an analysis of the antigenic content of variant or dissociated strains of tubercle bacilli.

8. To Jay R. Traver, Cornell University, Ithaca, N. Y., \$350, to aid in the completion of a study of North Carolina May flies.

9. To W. D. Urry, Johns Hopkins University, Baltimore, Md., \$500, for the continuation of a study of the geologic age of the Keeweenaw rocks.

10. To Howard H. Beard, Louisiana State University, New Orleans, \$400, for an investigation on the nutritional anemia of the rat.

11. To J. L. Hough, University of Chicago, \$75, to aid in a study of the bottom deposits of Lake Michigan.

The President announced the death of five Fellows:—Louis Agricola Bauer (Class I, Section 2), Charles Leavitt Edgar (Class I, Section 4), Benjamin Kendall Emerson (Class II, Section 1), William Barclay Parsons (Class I, Section 4), Roland Thaxter (Class II, Section 2); and of two Foreign Honorary Members:—Wilhelm Ostwald (Class I, Section 3) and Johan Herman Lie Vogt (Class II, Section 1).

The following report of the Council was presented:

REPORT OF THE COUNCIL.

Since the last report of the Council there have been reported the deaths of twenty-one Fellows:—Francis Greenleaf Allinson, Solon Irving Bailey, Louis Agricola Bauer, Bernard Arthur Behrend, Roland William Boyden, Richard Henry Dana, Charles Leavitt Edgar, Benjamin Kendall Emerson, William Wallace Fenn, Daniel Chester French, Harvey Monroe Hall, Edward Skinner King, Clarence Lemuel Elisha Moore, Clifford Herschel Moore, George Foot Moore, William Barclay Parsons, Samuel Wesley Stratton, George Fillmore Swain, Roland Thaxter, Frederick Jackson Turner, Robert DeCourcy Ward; six Foreign Honorary Members:—John Briquet, Louis Dollo,

Arthur Anthony Macdonell, Wilhelm Ostwald, Johan Herman Lie Vogt, Richard Wettstein; and two Associates:—Charles Francis Dorr Belden, Frederick Pickering Cabot.

Fifty-five Fellows and eleven Foreign Honorary Members were elected by the Council and announced to the Academy in May 1931.

The roll now includes 613 Fellows, 97 Foreign Honorary Members, and 25 Associates (not including those elected in May 1932).

The annual report of the Treasurer, Ingersoll Bowditch, was read, of which the following is an abstract:

GENERAL FUND.

Receipts.

Income on hand April 1, 1931	\$ 1,386.80	
From Investments	2,921.91	
From Assessments	5,490.00	
From Admissions.	330.00	
From Interest on Deposits	189.95	
From Rumford Fund Income	200.00	\$10,518.66

Expenditures.

Expenses of Library	\$2,088.96	
Treasurer's Expenses	864.04	
Books and Binding	1,167.10	
General Expenses	1,009.87	
House Expenses	3,019.08	
President's Expenses.	24.66	
Interest on Bonds Bought	136.67	\$ 8,310.38
Income transferred to Principal	369.62	\$ 8,680.00

RUMFORD FUND.

Receipts.

Income on hand April 1, 1931	\$ 4,778.65	
From Investments	3,957.10	\$ 8,735.75

Expenditures.

Transferred to Publication Account	\$2,430.42		
Purchase and Binding of Books	214.39		
Research	1,975.00		
United States Mint-medals	315.29		
Cases and engraving medals	33.00		
Mass. Hospital Life Ins. Co.	41.20		
Transferred to General Fund In-			
come for care of books	200.00		
Books and Periodicals—bal. 1930			
transferred to Capital	22.61		
Discretion of Committee—bal. 1930			
transferred to Capital	2,039.21	\$ 7,271.12	
Interest on bonds bought	42.17		
Income transferred to Principal	201.18	243.35	\$ 7,514.47

PUBLICATION ACCOUNT.

Receipts.

Income on hand April 1, 1931	\$12,807.03		
From Income Appleton Fund	\$ 1,443.76		
From Income Centennial Fund	2,666.93		
From Authors' Reprints	452.59		
From Sale of Publications	659.94		
From Amer. Council of Learned			
Societies	1,500.00		
From Farlow Herbarium for Mem-			
oirs	2,340.00		
Balance from Rumford Fund Publi-			
cations	2,430.42	11,493.64	\$24,300.67

Expenditures.

Publications	\$12,731.94		
Vault Rent-part	10.00	\$12,741.94	
Interest on Bonds bought	8.19		
Income transferred to Principal	207.20	215.39	\$12,957.33

C. M. WARREN FUND.

Receipts.

Income on hand April 1, 1931	\$	344.48		
From Investments		1,256.51	\$	1,600.99

Expenditures.

Research	\$	550.00		
Vault Rent-part		3.00	\$	553.00

Interest on bonds bought	\$	24.44		
Income transferred to Principal		62.75	87.19	\$ 640.19

FRANCIS AMORY FUND.

Receipts.

From Investments	\$	2,493.00
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Expenditures.

Publishing Statement	\$	55.75		
Income transferred to Principal		2,276.14		
Interest on bonds bought		161.11	\$	2,493.00

PERMANENT SCIENCE FUND.

Receipts.

Received for above fund	\$	5,850.00
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Expenditures.

Grants from above fund	\$	5,850.00
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The following reports were also presented:

REPORT OF THE LIBRARY COMMITTEE.

During the year 184 volumes and 25 unbound numbers of periodicals have been borrowed by 21 different Fellows and 16 different

libraries, and many more have been consulted at the Academy. All books taken out have been returned or satisfactorily accounted for.

The number of bound volumes on the shelves at the time of the last report was 42,578. During the year 451 volumes were added, making the number now 43,029. This includes 46 purchased from the General Fund, 24 from the Rumford Fund, and 381 received by gift or exchange. The number of pamphlets added was 85.

No changes have been made in the periodical subscription list this year, but several institutions have been added to the exchange list. We now subscribe to 43 scientific journals and exchange publications with 450 institutions. By exchange, subscription, or gift, we receive regularly 827 separate serial publications. It may be well in this connection to remind the Fellows that it has been the policy for a number of years to use all available funds for keeping up the collection of serials, of which the Academy has many long and valuable sets, making no attempt to add to the book collection.

The following appropriations were placed at the disposal of the Librarian during the past year:

Balance from General Fund	\$ 246.15
Appropriation from General Fund	3,400.00
Appropriation from Rumford Fund	350.00
Total	<u>\$3,996.15</u>

The expenses charged to the library during the financial year ending March 31, 1932, were:

Salaries	\$2,000.00
Binding:	
General Fund	\$ 713.49
Rumford Fund	90.06
	<u>\$ 803.55</u>

Purchase of Books and Periodicals:

General Fund	\$ 453.61
Rumford Fund	124.33
	<u>\$ 577.94</u>
Miscellaneous	88.96
Total	<u>\$3,470.45</u>

There remained an unexpended balance of \$525.70, as follows:

General Fund	\$ 390.09
Rumford Fund	135.61
Total.	<u>\$ 525.70</u>

This unusually large balance is due to the fact that the 1932 bill for German periodicals was received too late to be paid before the close of the fiscal year. As usual, however, all balances will be added to the appropriations for the ensuing year.

Respectfully submitted,

ALFRED C. LANE, *Librarian.*

May 11, 1932.

REPORT OF THE RUMFORD COMMITTEE.

The Rumford Committee held five meetings during the academic year 1931-1932; on May 13, Oct. 14, Nov. 11, Dec. 9, and March 9.

The Committee made the following grants from the Rumford Fund, during the year, in aid of researches on light and heat.

1931

Oct. 14.	No. 293.	Prof. P. W. Bridgman, Harvard University, for Equipment in Researches on Thermal and Optical Properties of Matter	\$ 500
Nov. 11.	No. 294.	Prof. Harlan T. Stetson, Ohio Wesleyan University, Delaware, Ohio, for Equipment for Measuring Solar Radiation	300
Dec. 9.	No. 295.	Profs. Ross and Van Biesbroeck, Yerkes Observatory, Williams Bay, Wisconsin, for Thermoelectric Pyrometer Equipment	400

1932

Mar. 9.	No. 296.	Mr. H. M. O'Bryan, Mass. Institute of Technology, Cambridge, Mass., for Equipment for Spectroscopic Researches	500
Mar. 9.	No. 297.	Prof. J. C. Stearns, Denver University, Denver, Col., for Equipment in Researches on Cosmic Rays.	<u>300</u>
			\$2,000

Reports of progress in research aided by grants from the Rumford Fund have been received from Messrs. G. H. Dieke, J. W. McBain, D. H. Crawford, P. W. Bridgman, W. J. Luyten, H. H. Plaskett, H. Shapley and Harlan T. Stetson.

The following recent publications concern researches that have been aided by grants from the Rumford Fund.

Nos.

281. By Prof. P. W. Bridgman, Harvard University, "P. V. T. Relations of NH_4Cl and NH_4Br , and in Particular the Effect of Pressure on the Volume Anomalies," *Phys. Review*, Vol. 38, No. 1, pp. 182-191, July 1, 1931.
281. By Prof. P. W. Bridgman, "Volume-Temperature-Pressure Relations for Several Non-volatile Liquids," *Proc. Am. Ac. Arts & Sc.*, Vol. 67, No. 1, Jan. 1932.
281. By Prof. P. W. Bridgman, "Physical Properties of Single Crystal Magnesium," *Proc. Am. Ac. Arts & Sc.*, Vol. 67, No. 2, Jan. 1932.
290. By George Harrison, Mass. Institute of Technology, and Philip Leighton, Stanford University, "Spectral Fluorescence Efficiencies of Certain Substances with Applications to Heterochromatic Photographic Photometry," *Phys. Review*, Vol. 38, No. 5, pp. 899-908, Sept. 1, 1931.
290. By George Harrison, "A Twenty-one Foot Vacuum Spectrograph for the Extreme Ultraviolet," *Rev. of Scientific Instruments*, Vol. 2, No. 10, Oct. 1931.
263. By Prof. Paul Kirkpatrick, University of Hawaii, "A Generating Voltmeter for the Measurement of High Potentials," *Rev. of Sci. Instruments*, Vol. 3, No. 1, Jan. 1932.
263. By Prof. Kirkpatrick, "Lateral Space Distribution of X-ray Photo-electrons," *Phys. Review*, Vol. 38, No. 11, pp. 1938-1942, Dec. 1, 1931.
286. By Prof. Harlow Shapley, Ernst J. Öpik, and Samuel L. Boothroyd, "The Arizona Expedition for the Study of Meteors," *Proc. Nat. Ac. Sciences*, Vol. 18, pp. 16-23, Jan. 1932.

Respectfully submitted,

A. E. KENNELLY, *Chairman*.

May 11, 1932.

REPORT OF THE C. M. WARREN COMMITTEE.

The Committee had at its disposal at the beginning of the fiscal year 1931-1932, \$1,523.11, of which \$550 has been appropriated during the past year.

Since the last annual report grants have been made as follows:

June 10, 1931: to Professor E. H. Huntress, M. I. T., \$250, to be used for the purchase of materials necessary in the preparation of substances to be investigated in connection with the development of a scheme for the qualitative analysis of organic compounds.

June 10, 1931: to Professor Henry Gilman, Iowa State College, \$300, to be used in the purchase of expensive chemicals needed in his study of the Grignard reaction.

The Committee considered with care four applications for assistance but found it inadvisable to make grants in these cases.

At the next meeting of the Committee applications for seven grants, amounting to \$2,410, will be considered.

Reports of progress, during the current year, have been made by Professors Allen, Huntress, Richtmyer, Schmidt.

The papers listed below, which have been published since the last report of the Committee, describe the results of investigations aided by the Warren Fund. In each case there is an acknowledgment by the author of the assistance received.

C. F. H. Allen and W. E. Barker:

"Addition Reactions of Vinyl Phenyl Ketone. II. Desoxybenzoin." *J. Am. Chem. Soc.* 54, 736 (1932).

Sadaichi Miyamoto and Carl L. A. Schmidt:

"On the Equilibria between the Zwitterion and the Classical Amino Acids." *University of California Publications in Physiology*, Vol. 8, No. 1, pp. 1-7, March 4, 1932.

Respectfully submitted,

JAMES F. NORRIS, *Chairman*.

May 11, 1932.

REPORT OF THE COMMITTEE OF PUBLICATION.

The Committee of Publication has held one meeting during the year, the rest of its business being carried on as usual by correspond-

ence. At the meeting of March 9, 1932, the Committee authorized the publication of a new Memoir by Professor M. L. Fernald, and left on the table for further discussion the question of publication of a statistical report submitted by Professor E. B. Wilson. On account of what seemed extremely high cost of printing, the Editor was given discretionary power to change the printer of Academy publications. The Intelligencer Press has, however, agreed to a discount of ten percent on all its bills, and as yet no change of printer has been made.

Since the last report of the Committee, Volume 65 of the Proceedings has been published, Volume 66—including the records number—has been completed, and four numbers of Volume 67 have been issued. In addition to this, the fifth of the Thaxter Memoirs has appeared. Several manuscripts submitted for publication by non-members of the Academy have been declined.

According to the Treasurer, the Committee has spent during the fiscal year—April 1, 1931 to April 1, 1932—the sum of \$12,733.87. On May 1, 1932, the balance available for publications during the current year is \$14,200.08. This includes an unexpended balance of \$1,004.87 appropriated by the Rumford Committee for publications in the field of heat and light. The cost of the Sapir volume was \$6,168.27, towards which the American Council of Learned Societies contributed \$3,000.00. The expense of the Thaxter Memoir was defrayed by Professor Thaxter.

The enlargement of Classes III and IV and the prospect that demand for publication in the fields of the humanities would be increased has led President Ford to appoint a special committee consisting of Professor G. H. Chase, Professor E. F. Gay and the Editor, to consider the interests of Classes III and IV in reference to publication. This committee has held one meeting in conference with President Ford and Dr. Waldo G. Leland, Secretary of the American Council of Learned Societies. At this meeting Dr. Leland assured the Committee of his interest in publications in the field of the humanities and suggested that the Academy might perform useful service by the publication of original documents. The Council, he said, would be glad to consider applications for the financial support of such publications. Encouraged by such an attitude, Professor Kirsopp Lake has

already requested the Committee to accept for publication a collection of Greek manuscripts.

Respectfully submitted,

H. V. NEAL, *Chairman.*

May 11, 1932.

REPORT OF THE HOUSE COMMITTEE.

The House Committee has had funds at its disposal amounting to \$3,659.43, made up as follows:

Balance from previous year	\$ 319.43
Appropriations for 1931-32.	3,100.00
Received for use of rooms	240.00
	<hr/>
	\$3,659.43

Of this amount the sum of \$2,586.68 has been spent for the routine expenses, janitor, light, power, heat, telephone, etc., and \$672.40 has been spent for upkeep and equipment, making a total of \$3,259.08, and leaving an unexpended balance of \$400.35. The chief items of upkeep this year have been the painting of the reading room, the upper hall, and the janitor's suite. A new vacuum cleaner has also been purchased.

Meetings have been held as follows:

The Academy	8
American Antiquarian Society	1
American Chemical Society, Northeastern Section	8
Archæological Institute of America, Boston Society	3
Copley Society	1
Harvard-Technology Chemical Club	7
Japan Society of Boston	2
Mediæval Academy of America.	1
New England Botanical Club	9
	<hr/>
	40

The Council Chamber has been used for Academy Council and Committee meetings, and also by the Trustees of the Children's Museum,

the New England Farm and Garden Association, the Thursday Evening Club, etc.

A detailed list of expenditures follows:

Janitor	\$ 970.00
Electricity { Light	240.60
{ Power	112.68
Coal	890.86
Elevator	107.36
Gas	56.40
Telephone	107.22
Water	55.20
Ash tickets	25.10
Upkeep	526.10
Furnishing and equipment	146.30
Janitor's supplies and sundries	21.26
<hr/>	
Total expenditure	\$3,259.08

Respectfully submitted,

S. BURT WOLBACH, *Chairman.*

May 11, 1932.

On the recommendation of the Treasurer, it was *Voted*, That the annual assessment for 1932-1933 be \$15.

The annual election resulted in the choice of the following officers and committees:

JEREMIAH D. M. FORD, *President*
 HARRY M. GOODWIN, *Vice-President for Class I*
 WALTER B. CANNON, *Vice-President for Class II*
 EDWIN F. GAY, *Vice-President for Class III*
 CHARLES B. GULICK, *Vice-President for Class IV*
 TENNEY L. DAVIS, *Corresponding Secretary*
 WALTER E. CLARK, *Recording Secretary*
 INGERSOLL BOWDITCH, *Treasurer*
 ALFRED C. LANE, *Librarian*
 HERBERT V. NEAL, *Editor*

Councillors for Four Years.

ELMER P. KOHLER, of Class I THOMAS NELSON PERKINS, of Class III
 ROGER I. LEE, of Class II WILLIAM S. FERGUSON, of Class IV

Councillor for Two Years.

ROLAND G. D. RICHARDSON, of Class I

Finance Committee.

THOMAS BARBOUR PAUL J. SACHS ALFRED L. RIPLEY

Rumford Committee.

ARTHUR E. KENNELLY
 ELIHU THOMSON HARRY M. GOODWIN HARLOW SHAPLEY
 PERCY W. BRIDGMAN CHARLES L. NORTON NORTON A. KENT

C. M. Warren Committee.

JAMES F. NORRIS
 GREGORY P. BAXTER ARTHUR D. LITTLE REID HUNT
 WALTER L. JENNINGS FREDERICK G. KEYES CHARLES A. KRAUS

*Committee of Publication.**HERBERT V. NEAL, Chairman*

EDWIN C. KEMBLE, of Class I JOSEPH H. BEALE, of Class III
 FREDERIC T. LEWIS, of Class II ROBERT P. BLAKE, of Class IV

*Committee on the Library.**ALFRED C. LANE, Chairman*

RAYMOND C. ARCHIBALD, of Class I WILLIAM Y. ELLIOTT, of Class III
 THOMAS BARBOUR, of Class II HENRY B. WASHBURN, of Class IV

Auditing Committee.

GEORGE R. AGASSIZ JOHN E. THAYER

*House Committee.**S. BURT WOLBACH, Chairman*

WILLIAM H. LAWRENCE ROBERT P. BIGELOW DAVIS R. DEWEY

Committee on Meetings.

THE PRESIDENT

THE RECORDING SECRETARY

DANIEL F. COMSTOCK GEORGE H. PARKER CHARLES J. BULLOCK
JOSHUA WHATMOUGH

The Corresponding Secretary announced that the following gentlemen had been elected members of the Academy:

FELLOWS.

CLASS I.

- Section 1.* Clarence Raymond Adams, Providence, R. I.
Albert Arnold Bennett, Providence, R. I.
Einar Hille, Princeton, N. J.
David Vernon Widder, Cambridge
- Section 3.* Kenneth Lamartine Mark, Boston
Walter Cecil Schumb, East Milton
- Section 4.* Glennon Gilboy, Cambridge
Albert Haertlein, Watertown
Ralph Restieaux Lawrence, Brookline

CLASS II.

- Section 1.* Frederick Kuhne Morris, Cambridge
- Section 2.* Ralph Hartley Wetmore, Belmont
- Section 3.* David Rapport, Cambridge
- Section 4.* Joseph Charles Aub, Belmont
Franklin Greene Balch, Boston
Elliott Carr Cutler, Brookline

CLASS III.

- Section 1.* Francis Noyes Balch, Jamaica Plain
Felix Frankfurter, Cambridge
Walter Perley Hall, Fitchburg
Eldon Revare James, Cambridge
James Arnold Lowell, Newton
Sayre Macneil, Cambridge

Calvert Magruder, Cambridge
John MacArthur Maguire, Cambridge
Odin Roberts, Boston

Francis Bowes Sayre, Cambridge
Warren Abner Seavey, Arlington
Edward Sampson Thurston, Cambridge
Edmund Allen Whitman, Cambridge

Section 2. Charles Austin Beard, New Milford, Conn.
William Richards Castle, Jr., Washington, D. C.
Joseph Perkins Chamberlain, New York, N. Y.
Joseph Clark Grew, Tokyo, Japan
Philip Caryl Jessup, New York, N. Y.
Charles Edward Merriam, Chicago, Ill.
Ogden Livingston Mills, Washington, D. C.
William Phillips, Boston

William Franklin Willoughby, Washington, D. C.

Section 3. John Candler Cobb, Milton
William James Cunningham, Cambridge
Arthur Stone Dewing, Cambridge
Wallace Brett Donham, Boston
Norman Scott Brien Gras, Cambridge
Henry Wyman Holmes, Cambridge
Walter Wallace McLaren, Williamstown
Leon Carroll Marshall, Baltimore, Md.
Frederick Cecil Mills, New York, N. Y.
Harold Glenn Moulton, Washington, D. C.
William Fielding Ogburn, Chicago, Ill.
George Byron Roorbach, Cambridge
Leo S. Rowe, Washington, D. C.
Carl Snyder, New York, N. Y.

John Henry Williams, Cambridge

Section 4. Charles Francis Adams, Concord
Charles Foster Batchelder, Cambridge
Howard Coonley, Milton
John Albert Cousens, Tufts College
Henry Sturgis Dennison, Framingham
William Lusk Webster Field, Milton

Francis Russell Hart, Boston
Edward Jackson Holmes, Boston
Nathaniel Thayer Kidder, Milton
Thomas William Lamont, New York, N. Y.
Everett Morss, Boston
Robert Lincoln O'Brien, Dedham
Andrew James Peters, Jamaica Plain
Alfred Lawrence Ripley, Andover
Payson Smith, Brookline
Charles Henry Taylor, Boston
Eliot Wadsworth, Boston
Edwin Sibley Webster, Brookline
Benjamin Loring Young, Weston

CLASS IV.

- Section 1.* Michael Joseph Ahern, Weston
James Rowland Angell, New Haven, Conn.
Leonard Carmichael, Providence, R. I.
George Croft Cell, Reading
William Healy, Boston
Karl Spencer Lashley, Chicago
Arthur Darby Nock, Cambridge
William Cardinal O'Connell, Boston
- Section 2.* William Brooks Cabot, Boston
Waldo Gifford Leland, Washington, D. C.
Charles Holt Taylor, Cambridge
- Section 3.* Ronald Salmon Crane, Chicago, Ill.
Morris William Croll, Princeton, N. J.
Ralph Hayward Keniston, Chicago, Ill.
Ernest Felix Langley, Cambridge
Fred Bates Lund, Newton
George Rapall Noyes, Berkeley, Cal.
Milman Parry, Belmont
Arthur Stanley Pease, Cambridge
Horatio Elwin Smith, Providence, R. I.
William Thomson, Cambridge

- Section 4.* William Welles Bosworth, New York, N. Y.
Chalmers Dancy Clifton, New York, N. Y.
Kenneth John Conant, Cambridge
George Harold Edgell, Cambridge
William James, Cambridge
Anthony John Philpott, Arlington
Henry Richardson Shepley, Brookline

FOREIGN HONORARY MEMBERS.

CLASS II.

- Section 2.* Frederick Orpen Bower, Ripon, England
Kingo Miyabe, Sapporo, Japan
Albert Charles Seward, Cambridge, England

CLASS III.

- Section 2.* Mineichiro Adatci, The Hague, Holland
Paul Claudel, Washington, D. C.
Hu Shih, Peiping, China
Section 3. Sir William Henry Beveridge, London, England
Arthur Lyon Bowley, London, England
Ralph George Hawtrey, London, England
Charles Rist, Versailles, France

CLASS IV.

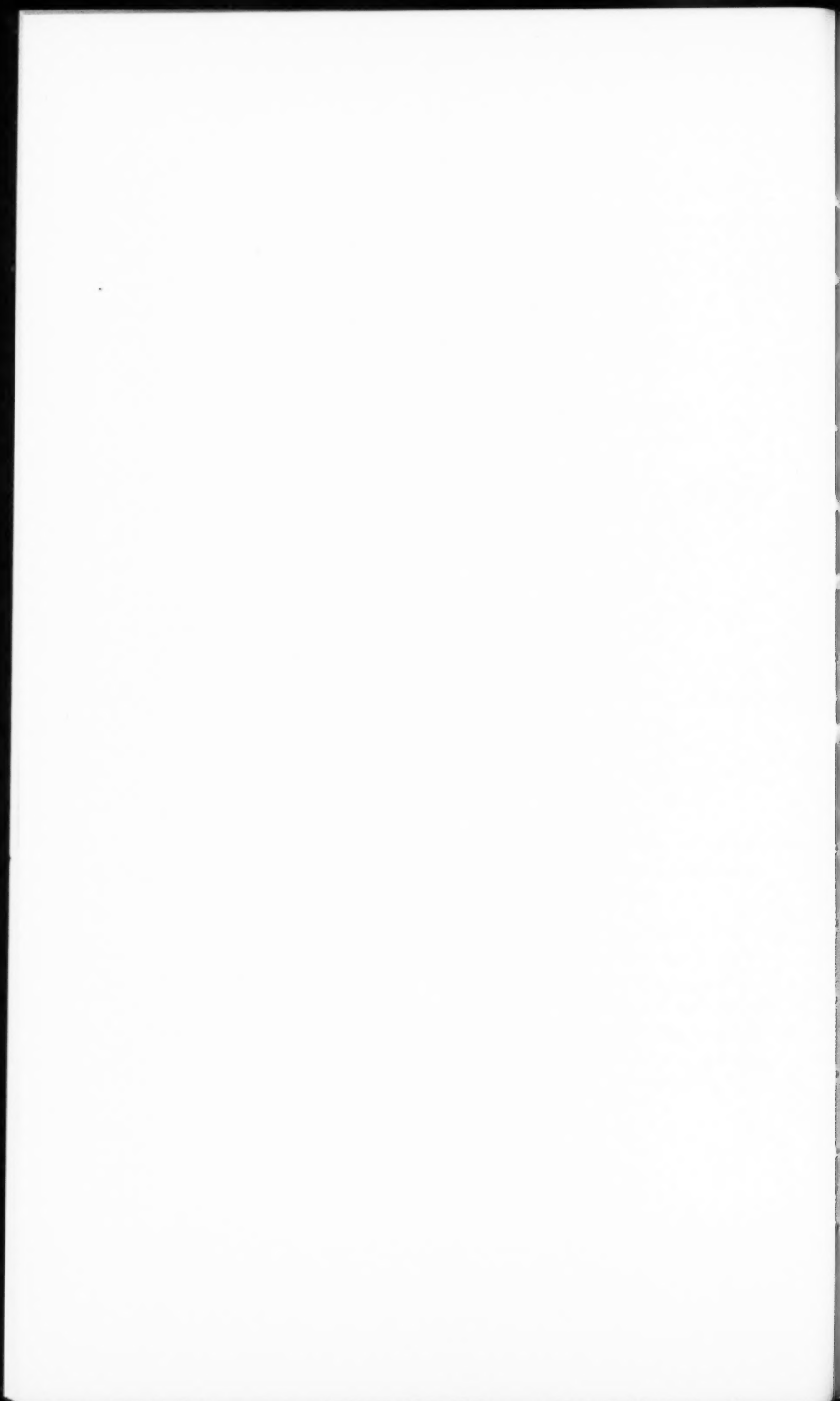
- Section 1.* Pierre Janet, Paris, France
Section 3. Paul Mazon, Paris, France
Frederick William Thomas, Oxford, England

The following communication was presented:

Mr. John R. Freeman: "Earthquake Damage."

Two papers were presented by title: "Bacterial Detoxification," by Robert S. Harris and John W. M. Bunker, presented by J. W. M. Bunker; and "Further Studies on the Fauna of North American Hot Springs," by C. T. Brues.

The meeting was dissolved at 10.15 P. M.



BIOGRAPHICAL NOTICES.

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IRA NELSON HOLLIS (1856-1930).

Fellow in Class I, Section 4, 1897.

Ira Nelson Hollis was born at Mooresville, Floyd County, Indiana, on March 7, 1856, the son of Ephriam Joseph Hollis (1825-1910) and Mary Kearns Hollis. His father became Captain in the 59th Indiana Regiment, serving at Vicksburg, Corinth, Shiloh, Chickamauga, Atlanta, and on the march to the sea, returning in command of the regiment, and later became owner and operator of a quarry at Louisville, Kentucky. His mother was the daughter of a farmer in Steubenville, Ohio.

Hollis' youth was spent at Louisville under straitened circumstances. He attended the local High School and then went as an apprentice in a machine shop. He later secured a clerical position with a railroad, and then with a cotton commission house in Memphis. At the age of eighteen he took the examination for admission to the Naval Academy at Annapolis and came out at the head of the list, a position which he retained throughout the course. After graduating as Cadet-Engineer in 1878 he spent three years on the Cruiser Quinnebaug in the Mediterranean and North Sea, and on the coast of Africa. He had been made Assistant Engineer in 1880, and on the conclusion of the cruise he was detailed as Professor of Marine Engineering at Union College, Schenectady. In 1884 he served with the Advisory Board for the construction of the ships of the White Squadron. Going to the Pacific coast, he spent three years at the Union Iron Works, supervising the construction of the Charleston. He then served three years on board that vessel in charge of her machinery, with the rank of Passed Assistant Engineer, mainly on the China Station, but, later taking part in the chase of the Itata.

In 1892 Hollis was designated to lecture on naval engineering at the Naval War College at Newport; his lectures being subsequently published as a text book for the Navy. He then became Assistant to the Chief of the Bureau of Steam Engineering. From this position he was called in 1893 to take charge of the development of instruction in engineering at Harvard University.

During his twenty years as Professor of Mechanical Engineering at Harvard University Hollis built up a reputation as educator and administrator. His breadth of experience, energy and sanity of

judgement were also brought into play in numerous nonacademic activities. As Chairman of the Athletic Committee he converted the marsh land (now known as Soldiers Field) into a well equipped playing field and constructed on it the colossal Stadium, the first structure of its character in America. His courage in building that structure of reinforced concrete in the face of the grave doubts then existing as to its durability in the New England climate was characteristic of the man. He was active also in improving intercollegiate athletic relations, in establishing the Harvard Union (a students' club), in founding the Engineers' Club of Boston, of which he was the first president, and in numerous other enterprises demanding organizing power and leadership. His election later to the Board of Overseers of Harvard University—a unique honor for a non-graduate of Harvard College—gave evidence of the confidence and respect with which he was regarded by the great body of Harvard alumni. In 1913 Hollis became President of the Worcester Polytechnic Institute, a position which gave wide scope to his administrative powers. He soon became a leading citizen of the community and during the war was on the Committee of Public Safety and in the New England Fuel Administration. In this period also he was elected President of the American Society of Mechanical Engineers and in that position did valuable work for national preparedness. He resigned in 1925 on account of ill health, returned to Cambridge, Massachusetts, and devoted himself to writing until his death on August 14, 1930.

Hollis was the recipient of honorary degrees of A.M. (Harvard), L.H.D. (Union), Sc.D. (University of Pittsburgh), and Eng.D. (Worcester Polytechnic Institute). He was a Fellow of the American Academy of Arts and Sciences, and a member of the American Society of Mechanical Engineers, the Society of U. S. Naval Engineers, the American Society of Naval Architects and Marine Engineers, the Society for the Promotion of Engineering Education, and the Boston Society of Civil Engineers.

His publications include "The Frigate Constitution," and various scientific papers. He drafted the Personnel Act of 1898, reorganizing the line and staff of the Navy and establishing the present system.

The large influence of Hollis in all his associations was the result not only of his energy, character and good judgement but also of his

geniality and capacity for comradeship and sympathetic helpfulness. He is survived by four children, Janette Ralton, Oliver Nelson, Eleanor Vernon and Carolyn. His wife, Caroline Lorman Hollis, the daughter of Charles Lorman of Detroit, died in 1925.

LIONEL S. MARKS.

CLARENCE LEMUEL ELISHA MOORE¹ (1876-1931).

Fellow in Class I, Section 1, 1914.

Clarence Lemuel Elisha Moore, the son of George Taylor and Lydia Ann (Bradshaw) Moore, was born in Bainbridge, Ohio, on May 12, 1876. His father was a grain dealer and was descended from the early settlers. After some years of school teaching, he entered the Ohio State University, from which he was graduated in 1901. His college course was followed by graduate study in mathematics at Cornell University which granted him a master's degree in 1902, and the doctorate in 1904. From this time until his death, on December 5, 1931, he was connected with the Massachusetts Institute of Technology, where he was an instructor for five years, assistant professor for seven years, associate professor for four years and professor for eleven years. Shortly after coming to the Institute, he spent a year in study abroad, principally in Turin under Segre, and the influence of the Italian geometers profoundly affected his later mathematical career. He married Belle Pease Fuller of Springfield, Massachusetts, on June 11, 1913. She and their daughter, Hazel Ann, survive him.

Professor Moore was a member of the American Mathematical Society and of the Circolo Matematico di Palermo, and a charter member of the Mathematical Association of America. He was a Fellow of this Academy and at the time of his death one of its Councilors. Many of his early papers were published in the Proceedings of this Academy. All of his later ones were published in the Journal of Mathematics and Physics which was founded at the Massachusetts

¹ Compare the biography by D. J. Struik, in the Bulletin of the American Mathematical Society, vol. 38 (1932), p. 155, and the longer account by the same author in the Journal of Mathematics and Physics, vol. XI (1932), p. 1. The latter includes a detailed list of publications, and a critical survey of his mathematical contributions.

Institute of Technology in 1921, largely through his efforts, and of which he was an editor for ten years.

Professor Moore distinguished himself in all three of the fields of activity of an American educator: teaching, administration and research. But perhaps his most important service to the community in which he labored was in the rôle of friend and, in the case of his younger colleagues and students, father confessor and adviser. For his juniors, "to talk it over with Moore" was the natural treatment of any difficulty whether it concerned practical life, academic matters or abstract mathematics.

In recent years he conducted classes in mathematics as applied to aeronautical engineering. For eleven years he was in charge of the course in general science and engineering which included an undergraduate option in mathematics. This course, unlike most of those at Technology, left considerable freedom to the student in his choice of subjects, and Professor Moore gave countless hours to counselling undergraduates. He opposed, with equal firmness, diffuse superficiality and narrow specialization. His advice was nearly always followed by the students, not under compulsion but through the effectiveness of kindly argument. While Professor Moore realized the value of discipline and the importance of enforcing rules in general, no one was quicker than he to cut red tape in the interest of justice or common sense.

In creative mathematical work, C. L. E. Moore had a vigorous interest, unusual in mathematicians past their first youth. This accounts for the amount and importance of his contributions, in spite of the physical handicap of impaired vision, which made prolonged periods of reading an impossibility. His papers¹ for the most part deal with geometry. He began with problems concerning algebraic geometry in euclidean space of three and higher dimensions, and later went on to the differential geometry of Riemannian manifolds. He also (partly in collaboration with H. B. Phillips) did some work on the applications of vector analysis to geometry. His work, taken as a whole, possesses unusual unity, and gives evidence of a real feeling for vital problems and a keen geometric insight into them. In mathematics, as in other aspects of life, C. L. E. Moore was little influenced by current fashions. This independence led him, for

example (partly in collaboration with E. B. Wilson) to apply the methods of Ricci to the geometry of hyperspace several years before the body of American geometers became interested in the absolute calculus through its application to relativity by Einstein.

Besides the original contributions made directly by himself, or in collaboration with his colleagues, Professor Moore had a very stimulating influence on the general activity of the mathematical department at Technology. He continually encouraged his colleagues to do creative work, even in the face of difficulties, and to publish their results. When most of the mathematical journals in this country were inactive owing to a printers' strike, it was he who urged the foundation of the *Journal of Mathematics and Physics* to give the work of the staff an outlet. In questions of mathematical appointments, he was inclined to favor the candidate whom it might be "impossible to keep" rather than the one whom it might prove "impossible to lose." On all questions of departmental policy he always had a decided opinion, and even those who disagreed with him found their ideas clarified by his comments. In a controversy he stood by his guns without being unreasonably stubborn and however emphatic his point of view might be, he avoided all note of personal hostility.

C. L. E. Moore leaves, at his untimely death, many scientific and academic mementos and in the minds of his associates so vivid a memory of his vigorous, friendly personality that it is hard for them to realize that he is no longer with them.

PHILIP FRANKLIN.

American Academy of Arts and Sciences.

OFFICERS AND COMMITTEES FOR 1932-1933.

PRESIDENT

JEREMIAH D. M. FORD.

VICE-PRESIDENTS.

Class I.

HARRY M. GOODWIN,

Class II.

WALTER B. CANNON,

Class III.

EDWIN F. GAY,

Class IV.

CHARLES B. GULICK.

CORRESPONDING SECRETARY.

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Terms expire 1933.

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Terms expire 1934.

HERVEY W. SHIMER.

HARRY E. CLIFFORD,

Terms expire 1935.

OAKES AMES.

ELMER P. KOHLER,

Terms expire 1936.

ROGER I. LEE.

Class III.

ARTHUR N. HOLCOMBE,

Terms expire 1933.

Class IV.

IRVING BABBITT.

ROSCOE POUND,

Terms expire 1934.

ALBERT C. KNUDSON.

GEORGE G. WILSON,

Terms expire 1935.

CHARLES HOPKINSON.

THOMAS N. PERKINS,

Terms expire 1936.

WILLIAM S. FERGUSON.

THOMAS BARBOUR, PAUL J. SACHS, ALFRED L. RIPLEY.

THOMAS BARBOUR, PAUL J. SACHS, ALFRED L. RIPLEY.

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GEORGE R. AGASSIZ, JOHN E. THAYER.

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S. BURT WOLBACH, *Chairman*,
WILLIAM H. LAWRENCE, ROBERT P. BIGELOW, DAVIS R. DEWEY.

S. BURT WOLBACH, *Chairman*,
WILLIAM H. LAWRENCE, ROBERT P. BIGELOW, DAVIS R. DEWEY.

THE PRESIDENT,
THE RECORDING SECRETARY,
DANIEL F. COMSTOCK, GEORGE H. PARKER, CHARLES J. BULLOCK,
JOSHUA WHATMOUGH.

THE PRESIDENT,
THE RECORDING SECRETARY,
DANIEL F. COMSTOCK, GEORGE H. PARKER, CHARLES J. BULLOCK,
JOSHUA WHATMOUGH.

LIST
OF THE
FELLOWS AND FOREIGN HONORARY MEMBERS.

(Corrected to February 1, 1933.)

FELLOWS.—687.

(Number limited to eight hundred.)

CLASS I.—*Mathematical and Physical Sciences*.—202.

SECTION I.—*Mathematics and Astronomy*.—52.

Charles Greeley Abbot	Washington, D. C.
Clarence Raymond Adams	Providence, R. I.
Walter Sydney Adams	Pasadena, Cal.
George Russell Agassiz	Boston
Raymond Clare Archibald	Providence, R. I.
Albert Arnold Bennett	Providence, R. I.
George David Birkhoff	Cambridge
Ernest William Brown	New Haven, Conn.
William Elwood Byerly	Cambridge
William Wallace Campbell	Mount Hamilton, Cal.
Julian Lowell Coolidge	Cambridge
George Cary Comstock	Beloit, Wis.
Leonard Eugene Dickson	Chicago, Ill.
Philip Fox	Evanston, Ill.
Fabian Franklin	New York, N. Y.
Philip Franklin	Belmont
Edwin Brant Frost	Williams Bay, Wis.
William Caspar Graustein	Cambridge
Einar Hille	Princeton, N. J.
Frank Lauren Hitchcock	Belmont
Edward Vermilye Huntington	Cambridge
Dunham Jackson	Minneapolis, Minn.

Carl Otto Lampland	Flagstaff, Ariz.
Willem Jacob Luyten	Minneapolis, Minn.
George Abram Miller	Urbana, Ill.
John Anthony Miller	Swarthmore, Pa.
Samuel Alfred Mitchell	University, Va.
Frank Morley	Baltimore, Md.
Marston Morse	Cambridge
Forest Ray Moulton	Chicago, Ill.
Henry Bayard Phillips	Boston
William Henry Pickering	Mandeville, Jamaica, B. W. I.
Charles Lane Poor	New York, N. Y.
Roland George Dwight Richardson	Providence, R. I.
Henry Norris Russell	Princeton, N. J.
George Rutledge	Belmont
Frank Schlesinger	New Haven, Conn.
Harlow Shapley	Cambridge
Vesto Melvin Slipher	Flagstaff, Ariz.
Frederick Slocum	Middletown, Conn.
Virgil Snyder	Ithaca, N. Y.
Joel Stebbins	Madison, Wis.
Harlan True Stetson	Delaware, Ohio
Dirk Jan Struik	Cambridge
Henry Taber	Worcester
David Jacob Tamarkin	Providence, R. I.
Harry Walter Tyler	Washington, D. C.
Oswald Veblen	Princeton, N. J.
Joseph Leonard Walsh	Cambridge
Alfred North Whitehead	Cambridge
David Vernon Widder	Cambridge
Frederick Shenstone Woods	Newton

CLASS I., SECTION II.—*Physics*.—57.

Adelbert Ames, Jr.	Hanover, N. H.
Joseph Sweetman Ames	Baltimore, Md.
Samuel Jackson Barnett	Los Angeles, Cal.
Carl Barus	Providence, R. I.
Percy William Bridgman	Cambridge

Walter Guyton Cady	Middletown, Conn.
George Ashley Campbell	New York, N. Y.
Leslie Lyle Campbell	Boston
Emory Leon Chaffee	Cambridge
Arthur Holly Compton	Chicago, Ill.
Karl Taylor Compton	Cambridge
Daniel Frost Comstock	Boston
William David Coolidge	Schenectady, N. Y.
Henry Crew	Evanston, Ill.
Harvey Nathaniel Davis	Hoboken, N. J.
Clinton Joseph Davisson	New York, N. Y.
Arthur Louis Day	Washington, D. C.
William Johnson Drisko	Winchester
William Duane	Boston
Alexander Wilmer Duff	Worcester
Arthur Woolsey Ewell	Worcester
Harry Manley Goodwin	Brookline
George Ellery Hale	Pasadena, Cal.
Edwin Herbert Hall	Cambridge
Arthur Cobb Hardy	Wellesley
George Russell Harrison	Cambridge
Hammond Vinton Hayes	Boston
John Charles Hubbard	Baltimore, Md.
Gordon Ferrie Hull	Hanover, N. H.
Charles Clifford Hutchins	Brunswick, Me.
Frederic Eugene Ives	Philadelphia, Pa.
James Edmund Ives	Washington, D. C.
Edwin Crawford Kemble	Cambridge
Norton Adams Kent	Newton Center
Frank Arthur Laws	Brookline
Henry Lefavour	Boston
Robert Bruce Lindsay	Providence, R. I.
Theodore Lyman	Brookline
Ernest George Merritt	Ithaca, N. Y.
Dayton Clarence Miller	Cleveland, O.
Robert Andrews Millikan	Pasadena, Cal.
Harry Wheeler Morse	Stanford University, Cal.

Edward Leamington Nichols	Ithaca, N. Y.
Charles Ladd Norton	Boston
Otto Oldenberg	Cambridge
George Washington Pierce	Cambridge
Michael Idvorsky Pupin	New York, N. Y.
Frederick Albert Saunders	Cambridge
John Clarke Slater	Cambridge
John Stone Stone	San Diego, Cal.
Maurice deKay Thompson	Brookline
Elihu Thomson	Swampscott
Manuel Sandoval Vallarta	Brookline
David Locke Webster	Palo Alto, Cal.
Edwin Bidwell Wilson	Brookline
Robert Williams Wood	Baltimore, Md.
John Zeleny	New Haven, Conn.

CLASS I., SECTION III.—*Chemistry*.—52.

Roger Adams	Urbana, Ill.
Wilder Dwight Bancroft	Ithaca, N. Y.
Gregory Paul Baxter	Cambridge
James Alexander Beattie	Brookline
Arthur Alphonzo Blanchard	Cambridge
Marston Taylor Bogert	New York, N. Y.
William Crowell Bray	Berkeley, Cal.
Russell Henry Chittenden	New Haven, Conn.
Arthur Messinger Comey	Cambridge
James Bryant Conant	Cambridge
Tenney Lombard Davis	Norwell
Henry Fay	Brookline
George Shannon Forbes	Cambridge
Edward Curtis Franklin	Palo Alto, Cal.
Louis John Gillespie	Cambridge
Lawrence Joseph Henderson	Cambridge
Charles Loring Jackson	Boston
Walter Louis Jennings	Worcester
Grinnell Jones	Cambridge
Frederick George Keyes	Cambridge

Elmer Peter Kohler	Cambridge
Charles August Kraus	Providence, R. I.
Arthur Becket Lamb	Cambridge
Irving Langmuir	Schenectady, N. Y.
Gilbert Newton Lewis	Berkeley, Cal.
Warren Kendall Lewis	Newton
Arthur Dehon Little	Brookline
Duncan Arthur MacInnes	New York, N. Y.
Kenneth Lamartine Mark	Boston
Lafayette Benedict Mendel	New Haven, Conn.
Edward Mueller	Cambridge
Samuel Parsons Mulliken	Cambridge
Charles Edward Munroe	Forest Glen, Md.
Lyman Churchill Newell	Brookline
James Flack Norris	Boston
Arthur Amos Noyes	Pasadena, Cal.
William Albert Noyes	Urbana, Ill.
William Albert Noyes, Jr.	Providence, R. I.
Samuel Cate Prescott	Brookline
Robert Hallowell Richards	Jamaica Plain
Martin André Rosanoff	Valencia, Pa.
Allan Winter Rowe	Boston
George Scatchard	Cambridge
Walter Cecil Schumb	East Milton
Miles Standish Sherrill	Winchester
Harry Monmouth Smith	Brookline
Julius Oscar Stieglitz	Chicago, Ill.
Richard Chace Tolman	Pasadena, Cal.
William Hultz Walker	Pasadena, Cal.
Willis Rodney Whitney	Schenectady, N. Y.
Robert Seaton Williams	Cambridge
Alpheus Grant Woodman	Watertown

CLASS I., SECTION IV.—*Technology and Engineering*.—41.

Comfort Avery Adams	Belmont
Charles Harold Berry	Belmont
William Hubert Burr	New Canaan, Conn.

Vannevar Bush	Belmont
Harry Ellsworth Clifford	Newton
Arthur Powell Davis	Oakland, Cal.
Theodore Harwood Dillon	Cambridge
Philip Drinker	Brookline
Gano Dunn	New York, N. Y.
William Frederick Durand	Palo Alto, Cal.
Gordon Maskew Fair	Cambridge
Frederic Harold Fay	Boston
Glennon Gilboy	Cambridge
Albert Haertlein	Watertown
John Hays Hammond	New York, N. Y.
George Leonard Hosmer	Woburn
William Hovgaard	Brookline
James Robertson Jack	Watertown
Dugald Caleb Jackson	Cambridge
Frank Baldwin Jewett	New York, N. Y.
Lewis Jerome Johnson	Cambridge
Arthur Edwin Kennelly	Cambridge
Ralph Restieaux Lawrence	Brookline
William Henry Lawrence	Jamaica Plain
Charles Thomas Main	Winchester
Lionel Simeon Marks	Cambridge
Edward Furber Miller	Newton
Frederick Law Olmsted	Brookline
Charles Francis Park	Taunton
Langdon Pearse	Chicago, Ill.
Harold Pender	Philadelphia, Pa.
Greenleaf Whittier Pickard	Newton Center
George Edmond Russell	Arlington
Albert Sauveur	Cambridge
Henry Lloyd Smyth	Watertown
Charles Milton Spofford	Brookline
John F. Stevens	Baltimore, Md.
Edward Pearson Warner	New York, N. Y.
Arthur Edward Wells	New York, N. Y.
Robert Spurr Weston	Boston
Joseph Ruggles Worcester	Boston

CLASS II.—*Natural and Physiological Sciences.*—202.SECTION I.—*Geology, Mineralogy, and Physics of the Globe.*—50.

Wallace Walter Atwood	Worcester
Norman Levi Bowen	Washington, D. C.
Isaiah Bowman	New York, N. Y.
Kirk Bryan	Cambridge
Henry Helm Clayton	Canton
Herdman Fitzgerald Cleland	Williamstown
Reginald Aldworth Daly	Cambridge
Edward Salisbury Dana	New Haven, Conn.
William Morris Davis	Palo Alto, Cal.
William Ebenezer Ford	New Haven, Conn.
James Walter Goldthwait	Hanover, N. H.
Louis Caryl Graton	Cambridge
Herbert Ernest Gregory	Honolulu, T. H.
William Jackson Humphreys	Washington, D. C.
Ellsworth Huntington	New Haven, Conn.
Robert Tracy Jackson	Peterborough, N. H.
Thomas Augustus Jaggar	Honolulu, T. H.
Douglas Wilson Johnson	New York, N. Y.
Arthur Keith	Washington, D. C.
Alfred Church Lane	Cambridge
Esper Signius Larsen, Jr.	Cambridge
Andrew Cowper Lawson	Berkeley, Cal.
Charles Kenneth Leith	Madison, Wis.
Waldemar Lindgren	Brookline
Frederic Brewster Loomis	Amherst
Alexander George McAdie	Hampton, Va.
George Francis McEwen	La Jolla, Cal.
Donald Hamilton McLaughlin	Cambridge
Kirtley Fletcher Mather	Cambridge
Edward Bennett Mathews	Baltimore, Md.
John Campbell Merriam	Washington, D. C.
William John Miller	Los Angeles, Cal.
Frederick Kuhne Morris	Cambridge
Charles Palache	Cambridge
Percy Edward Raymond	Lexington

Austin Flint Rogers	Palo Alto, Cal.
Robert Wilcox Sayles	Chestnut Hill
Waldemar Theodore Schaller	Washington, D. C.
Charles Schuchert	New Haven, Conn.
William Berryman Scott	Princeton, N. J.
Hervey Woodburn Shimer	Hingham
Frank Bursley Taylor	Fort Wayne, Ind.
Thomas Wayland Vaughan	La Jolla, Cal.
Charles Hyde Warren	New Haven, Conn.
David White	Washington, D. C.
Herbert Percy Whitlock	New York, N. Y.
Bailey Willis	Palo Alto, Cal.
Arthur Winslow	Boston
John Eliot Wolff	Pasadena, Cal.
Frederick Eugene Wright	Washington, D. C.

CLASS II., SECTION II.—*Botany*.—38.

LeRoy Abrams	Stanford University, Cal.
Oakes Ames	North Easton
Joseph Charles Arthur	Lafayette, Ind.
Irving Widmer Bailey	Cambridge
Liberty Hyde Bailey	Ithaca, N. Y.
Edward Wilber Berry	Baltimore, Md.
Nathaniel Lord Britton	New York, N. Y.
Douglas Houghton Campbell	Palo Alto, Cal.
George Perkins Clinton	New Haven, Conn.
Bradley Moore Davis	Ann Arbor, Mich.
Edward Murray East	Jamaica Plain
Rollins Adams Emerson	Ithaca, N. Y.
Alexander William Evans	New Haven, Conn.
Joseph Horace Faull	Cambridge
Merritt Lyndon Fernald	Cambridge
Richard Thornton Fisher	Petersham
Robert Almer Harper	New York, N. Y.
Albert Spear Hitchcock	Washington, D. C.
John George Jack	East Walpole
Edward Charles Jeffrey	Cambridge

Willis Linn Jepson	Berkeley, Cal.
Ivan Murray Johnston	Jamaica Plain
Jacob Goodale Lipman	New Brunswick, N. J.
Burton Edward Livingston	Baltimore, Md.
Elmer Drew Merrill	Berkeley, Cal.
Winthrop John Vanleuven Osterhout	New York, N. Y.
George James Peirce	Palo Alto, Cal.
Alfred Rehder	Jamaica Plain
Benjamin Lincoln Robinson	Cambridge
Karl Sax	Jamaica Plain
William Albert Setchell	Berkeley, Cal.
Arthur Bliss Seymour	Cambridge
Elvin Charles Stakman	St. Paul, Minn.
William Codman Sturgis	Annisquam
William Trelease	Urbana, Ill.
Charles Alfred Weatherby	Cambridge
William Henry Weston, Jr.	Cambridge
Ralph Hartley Wetmore	Belmont

CLASS II., SECTION III.—*Zoology and Physiology*.—64.

Nathan Banks	Cambridge
Thomas Barbour	Boston
Francis Gano Benedict	Boston
Henry Bryant Bigelow	Concord
Robert Payne Bigelow	Brookline
William T. Bovie	Chicago, Ill.
Edward Allen Boyden	Minneapolis, Minn.
John Lewis Bremer	Boston
Charles Thomas Brues	Jamaica Plain
John Wymond Miller Bunker	Belmont
Walter Bradford Cannon	Cambridge
Thorne Martin Carpenter	Boston
William Ernest Castle	Belmont
Charles Value Chapin	Providence, R. I.
Benjamin Preston Clark	Boston
Lemuel Roscoe Cleveland	Jamaica Plain
Edwin Joseph Cohn	Cambridge

Edwin Grant Conklin	Princeton, N. J.
Manton Copeland	Brunswick, Me.
William John Crozier	Cambridge
Joseph Augustine Cushman	Sharon
Charles Benedict Davenport	Cold Spring Harbor, N. Y.
Hallowell Davis	Belmont
Samuel Randall Detwiler	New York, N. Y.
Gilman Arthur Drew	Eagle Lake, Fla.
Herbert McLean Evans	Berkeley, Cal.
Henry Clinton Fall	Tyngsboro
Alexander Forbes	Milton
William King Gregory	New York, N. Y.
Joseph Grinnell	Berkeley, Cal.
Samuel Henshaw	Cambridge
Leigh Hoadley	Cambridge
Samuel Jackson Holmes	Berkeley, Cal.
Roy Graham Hoskins	Newton Center
Leland Ossian Howard	Washington, D. C.
Herbert Spencer Jennings	Baltimore, Md.
Charles Atwood Kofoid	Berkeley, Cal.
Frederic Thomas Lewis	Waban
Ralph Stayner Lillie	Chicago, Ill.
Richard Swann Lull	New Haven, Conn.
Edward Laurens Mark	Cambridge
Ernest Gale Martin	Palo Alto, Cal.
Albert Davis Mead	Providence, R. I.
Axel Leonard Melander	New York, N. Y.
Gerrit Smith Miller	Washington, D. C.
Thomas Hunt Morgan	Pasadena, Cal.
Herbert Vincent Neal	Tufts College
Henry Fairfield Osborn	New York, N. Y.
George Howard Parker	Cambridge
Raymond Pearl	Baltimore, Md.
John Charles Phillips	Wenham
Henry Augustus Pilsbry	Philadelphia, Pa.
Frederick Haven Pratt	Wellesley Hills
Herbert Wilbur Rand	Cambridge

David Rapport	Cambridge
Arthur Clarence Redfield	Boston
William Emerson Ritter	Berkeley, Cal.
Alexander Grant Ruthven	Ann Arbor, Mich.
Percy Goldthwait Stiles	Newtonville
John Eliot Thayer	Lancaster
Arthur Wisswald Weyssse	Boston
William Morton Wheeler	Boston
Edmund Beecher Wilson	New York, N. Y.
Frederick Adams Woods	Rome, Italy

CLASS II., SECTION IV.—*Medicine and Surgery*.—50.

Joseph Charles Aub	Belmont
James Bourne Ayer	Milton
Franklin Greene Balch	Boston
George Blumer	New Haven, Conn.
Charles Macfie Campbell	Cambridge
Alexis Carrel	New York, N. Y.
William Bosworth Castle	Boston
David Cheever	Boston
Henry Asbury Christian	Boston
Stanley Cobb	Milton
Rufus Cole	New York, N. Y.
Harvey Cushing	Brookline
Elliott Carr Cutler	Brookline
Eugene Floyd DuBois	New York, N. Y.
Simon Flexner	New York, N. Y.
James Lawder Gamble	Brookline
Joseph Lincoln Goodale	Boston
Robert Battey Greenough	Boston
Ross Granville Harrison	New Haven, Conn.
Percy Rogers Howe	Boston
William Henry Howell	Baltimore, Md.
Reid Hunt	Boston
Elliott Proctor Joslin	Boston
Roger Irving Lee	Brookline
Edwin Allen Locke	Boston

Warfield Theobald Longcope	Baltimore, Md.
Fred Bates Lund	Newton
Frank Burr Mallory	Brookline
William James Mayo	Rochester, Minn.
James Howard Means	Boston
George Richards Minot	Boston
William Lorenzo Moss	Augusta, Ga.
John Howard Mueller	Boston
Robert Bayley Osgood	Boston
Joseph Hershey Pratt	Boston
Milton Joseph Rosenau	Brookline
Andrew Watson Sellards	Boston
Theobald Smith	Princeton, N. J.
Torald Hermann Sollmann	Cleveland, Ohio
Charles Wardell Stiles	Washington, D. C.
Richard Pearson Strong	Boston
Fritz Bradley Talbot	Brookline
Ernest Edward Tyzzer	Wakefield
Frederick Herman Verhoeff	Boston
Joseph Treloar Wearn	Cleveland, Ohio
William Henry Welch	Baltimore, Md.
Benjamin White	Boston
Francis Henry Williams	Boston
Simeon Burt Wolbach	Sudbury
Hans Zinsser	Boston

CLASS III.—*The Social Arts.*—107.SECTION I.—*Jurisprudence.*—30.

George Weston Anderson	Boston
Francis Noyes Balch	Jamaica Plain
Joseph Henry Beale	Cambridge
Fred Tarbell Field	Newton
Felix Frankfurter	Cambridge
Thomas Hovey Gage	Worcester
Walter Perley Hall	Fitchburg
Charles Evans Hughes	Washington, D. C.
Nathan Isaacs	Cambridge
Eldon Revare James	Cambridge

Frederick Lawton	Boston
James Arnold Lowell	Newton
Sayre Macneil	Cambridge
Calvert Magruder	Cambridge
William DeWitt Mitchell	Washington, D. C.
Edmund Morris Morgan	Arlington
Herbert Parker	South Lancaster
George Wharton Pepper	Philadelphia, Pa.
Roscoe Pound	Watertown
Thomas Reed Powell	Cambridge
Odin Roberts	Boston
Elihu Root	New York, N. Y.
Arthur Prentice Rugg	Worcester
Francis Bowes Sayre	Cambridge
Austin Wakeman Scott	Cambridge
Edward Sampson Thurston	Cambridge
William Cushing Wait	Medford
Eugene Wambaugh	Cambridge
Edmund Allen Whitman	Cambridge
George Woodward Wickersham	New York, N. Y.

CLASS III., SECTION II.—*Government, International Law, and Diplomacy.*—20.

William Richards Castle, Jr.	Washington, D. C.
Joseph Perkins Chamberlain	New York, N. Y.
William Yandell Elliott	Belmont
Sidney Bradshaw Fay	Cambridge
William Cameron Forbes	Milton
Joseph Clark Grew	Tokyo, Japan
Albert Bushnell Hart	Cambridge
Arthur Norman Holcombe	Cambridge
Manley Ottmer Hudson	Cambridge
Philip Carryl Jessup	New York, N. Y.
Abbott Lawrence Lowell	Cambridge
William MacDonald	New York, N. Y.
Charles Edward Merriam	Chicago, Ill.
Ogden Livingston Mills	Washington, D. C.
John Bassett Moore	New York, N. Y.

William Bennett Munro	Pasadena, Cal.
Westel Woodbury Willoughby	Baltimore, Md.
William Franklin Willoughby	Washington, D. C.
George Grafton Wilson	Cambridge
Quincy Wright	Chicago, Ill.

CLASS III., SECTION III.—*Economics and Sociology*.—34.

John Donald Black	Belmont
Charles Jesse Bullock	Cambridge
Richard Clarke Cabot	Cambridge
Thomas Nixon Carver	Cambridge
John Bates Clark	New York, N. Y.
John Candler Cobb	Milton
Arthur Harrison Cole	Cambridge
Melvin Thomas Copeland	Cambridge
William Leonard Crum	Cambridge
William James Cunningham	Cambridge
Clive Day	New Haven, Conn.
Davis Rich Dewey	Cambridge
Arthur Stone Dewing	Cambridge
Wallace Brett Donham	Boston
Henry Walcott Farnam	New Haven, Conn.
Irving Fisher	New Haven, Conn.
James Ford	Cambridge
Edwin Francis Gay	Cambridge
Henry Wyman Holmes	Cambridge
Walter Wallace McLaren	Williamstown
Leon Carroll Marshall	Baltimore, Md.
Frederick Cecil Mills	New York, N. Y.
Wesley Clair Mitchell	New York, N. Y.
Harold Glenn Moulton	Washington, D. C.
William Fielding Ogburn	Chicago, Ill.
Warren Milton Persons	New York, N. Y.
George Byron Roorbach	Cambridge
Leo S. Rowe	Washington, D. C.
Carl Snyder	New York, N. Y.
Pitirim Alexandrovich Sorokin	Winchester

Oliver Mitchell Wentworth Sprague	Cambridge
Frank William Taussig	Cambridge
Donald Skeele Tucker	Cambridge
John Henry Williams	Cambridge

CLASS III., SECTION IV.—*Administration and Affairs.*—23.

Charles Francis Adams	Concord
Charles Foster Batchelder	Cambridge
Ingersoll Bowditch	Jamaica Plain
John Albert Cousens	Tufts College
Henry Sturgis Dennison	Framingham
William Lusk Webster Field	Milton
Frank Johnson Goodnow	Baltimore, Md.
Francis Russell Hart	Boston
Edward Jackson Holmes	Boston
Nathaniel Thayer Kidder	Cambridge
Thomas William Lamont	New York, N. Y.
Everett Morss	Boston
Robert Lincoln O'Brien	Dedham
Thomas Nelson Perkins	Westwood
Andrew James Peters	Jamaica Plain
Herbert Putnam	Washington, D. C.
Alfred Lawrence Ripley	Andover
Jeremiah Smith, Jr.	Cambridge
Payson Smith	Brookline
Charles Henry Taylor	Boston
Eliot Wadsworth	Boston
Edwin Sibley Webster	Brookline
Benjamin Loring Young	Weston

CLASS IV.—*The Humanities.*—176.

SECTION I.—*Theology, Philosophy, and Psychology.*—39.

Michael Joseph Ahern	Weston
James Rowland Angell	New Haven, Conn.
Edwin Garrigues Boring	Cambridge
Edgar Sheffield Brightman	Newton
Henry Addington Bruce	Cambridge

Leonard Carmichael	Providence, R. I.
George Croft Cell	Reading
Walter Fenno Dearborn	Cambridge
Edmund Burke Delabarre	Providence, R. I.
Raymond Dodge	New Haven, Conn.
Edward Staples Drown	Cambridge
William Henry Paine Hatch	Cambridge
William Healy	Boston
William Arthur Heidel	Middletown, Conn.
William Ernest Hocking	Cambridge
Frederick John Foakes Jackson	Englewood, N. J.
Truman Lee Kelley	Cambridge
Albert Cornelius Knudson	Cambridge
Karl Spencer Lashley	Chicago, Ill.
William Lawrence	Boston
Clarence Irving Lewis	Cambridge
William McDougall	Durham, N. C.
Edward Caldwell Moore	Cambridge
Paul Elmer More	Princeton, N. J.
Arthur Darby Nock	Cambridge
William Cardinal O'Connell	Boston
Johnson O'Connor	Boston
George Herbert Palmer	Cambridge
Charles Edwards Park	Boston
Leighton Parks	London, England
Francis Greenwood Peabody	Cambridge
James Hugh Ryan	Washington, D. C.
Henry Knox Sherrill	Boston
Willard Learoyd Sperry	Cambridge
Russell Henry Stafford	Brookline
Henry Bradford Washburn	Cambridge
John Broadus Watson	New York, N. Y.
James Haughton Woods	Cambridge
Robert Mearns Yerkes	New Haven, Conn.

CLASS IV., SECTION II.—*History, Archæology, and Anthropology.*—37.

Charles McLean Andrews	New Haven, Conn.
James Phinney Baxter, 3d	Cambridge

Carl Lotus Becker	Ithaca, N. Y.
Robert Pierpont Blake	Cambridge
Franz Boas	New York, N. Y.
William Brooks Cabot	Boston
George Henry Chase	Cambridge
Roland Burrage Dixon	Cambridge
Wilberforce Eames	New York, N. Y.
Ephraim Emerton	Cambridge
Max Farrand	San Marino, Cal.
William Scott Ferguson	Cambridge
Worthington Chauncey Ford	Cambridge
Evarts Boutell Greene	New York, N. Y.
Charles Homer Haskins	Cambridge
Charles Downer Hazen	New York, N. Y.
Bert Hodge Hill	Athens, Greece
Earnest Albert Hooton	Cambridge
Aleš Hrdlička	Washington, D. C.
Alfred Vincent Kidder	Washington, D. C.
Alfred Louis Kroeber	Berkeley, Cal.
Kirsopp Lake	Cambridge
George LaPiana	Cambridge
Waldo Gifford Leland	Washington, D. C.
Charles Howard McIlwain	Cambridge
Roger Bigelow Merriman	Cambridge
Samuel Eliot Morison	Boston
George Andrew Reisner	Boston
Michael Ivanovich Rostovtzeff	New Haven, Conn.
George Sarton	Cambridge
Arthur Meier Schlesinger	Cambridge
Herbert Joseph Spinden	Brooklyn, N. Y.
John Osborne Sumner	Boston
Charles Holt Taylor	Cambridge
Charles Cutler Torrey	New Haven, Conn.
Alfred Marston Tozzer	Cambridge
Clark Wissler	New York, N. Y.

CLASS IV., SECTION III.—*Philology*.—45.

Edward Cooke Armstrong	Princeton, N. J.
Carl Darling Buck	Chicago, Ill.
Eugene Watson Burlingame	Albany, N. Y.
Edward Capps	Princeton, N. J.
Walter Eugene Clark	Cambridge
Ronald Salmon Crane	Chicago, Ill.
Morris William Croll	Princeton, N. J.
Samuel Hazzard Cross	Cambridge
Franklin Edgerton	New Haven, Conn.
Frank Edgar Farley	Middletown, Conn.
Jeremiah Denis Mathias Ford	Cambridge
James Geddes, Jr.	Brookline
Charles Hall Grandgent	Cambridge
Louis Herbert Gray	New York, N. Y.
William Chase Greene	Cambridge
Charles Burton Gulick	Cambridge
Roy Kenneth Hack	Cincinnati, Ohio
Raymond Dexter Havens	Baltimore, Md.
George Lincoln Hendrickson	New Haven, Conn.
William Guild Howard	Cambridge
Eugene Xavier Louis Henry Hyvernati	Washington, D. C.
Carl Newell Jackson	Cambridge
James Richard Jewett	Cambridge
(Ralph) Hayward Keniston	Chicago, Ill.
George Lyman Kittredge	Cambridge
Henry Roseman Lang	New Haven, Conn.
Ernest Felix Langley	Cambridge
Charles Rockwell Lanman	Cambridge
David Gordon Lyon	Cambridge
Francis Peabody Magoun, Jr.	Cambridge
Albert Matthews	Boston
William Albert Nitze	Chicago, Ill.
George Rapall Noyes	Berkeley, Cal.
Milman Parry	Belmont
Arthur Stanley Pease	Cambridge
Edward Kennard Rand	Cambridge

Fred Norris Robinson	Cambridge
Robert Kilburn Root	Princeton, N. J.
Rudolph Schevill	Berkeley, Cal.
Horatio Elwin Smith	Providence, R. I.
Herbert Weir Smyth	Cambridge
Franklin Bache Stephenson	Washington, D. C.
William Thomson	Cambridge
Joshua Whatmough	Cambridge
Ernest Hatch Wilkins	Oberlin, Ohio

CLASS IV., SECTION IV.—*The Fine Arts and Belles Lettres.*—55.

Irving Babbitt	Cambridge
George Pierce Baker	New Haven, Conn.
Stephen Vincent Benét	New York, N. Y.
Frank Weston Benson	Salem
(William) Welles Bosworth	New York, N. Y.
LeBaron Russell Briggs	Cambridge
Chalmers Dancy Clifton	New York, N. Y.
Kenneth John Conant	Cambridge
Frederick Shepherd Converse	Westwood
Charles Allerton Coolidge	Boston
Charles Townsend Copeland	Cambridge
Ralph Adams Cram	Boston
George Harold Edgell	Cambridge
William Emerson	Cambridge
John Erskine	New York, N. Y.
Arthur Fairbanks	Hanover, N. H.
Edward Waldo Forbes	Cambridge
Robert Frost	South Shaftsbury, Vt.
Wallace Goodrich	Boston
Robert Grant	Boston
Chester Noyes Greenough	Cambridge
Edward Burlingame Hill	Cambridge
Robert Silliman Hillyer	Cambridge
William Henry Holmes	Washington, D. C.
Charles Hopkinson	Manchester
Mark Antony DeWolfe Howe	Boston

Archer Milton Huntington	New York, N. Y.
Henry James	New York, N. Y.
William James	Cambridge
John Ellerton Lodge	Washington, D. C.
Charles Martin Tornov Loeffler	Medfield
John Livingston Lowes	Cambridge
Charles Donagh Maginnis	Brookline
Paul Manship	New York, N. Y.
Daniel Gregory Mason	New York, N. Y.
Frank Jewett Mather	Princeton, N. J.
Harold Murdock	Chestnut Hill
Kenneth Ballard Murdock	Cambridge
William Allan Neilson	Northampton
Curtis Hidden Page	Gilmanton, N. H.
William Lyon Phelps	New Haven, Conn.
Anthony John Philpott	Arlington
Arthur Kingsley Porter	Cambridge
Chandler Rathfon Post	Cambridge
Edwin Arlington Robinson	New York, N. Y.
Denman Waldo Ross	Cambridge
Paul Joseph Sachs	Cambridge
Ellery Sedgwick	Boston
Henry Dwight Sedgwick	Boston
Henry Richardson Shepley	Brookline
Edmund C. Tarbell	Boston
Charles Howard Walker	Boston
George Parker Winship	Charles River
Owen Wister	Philadelphia, Pa.
Charles Henry Conrad Wright	Cambridge

FOREIGN HONORARY MEMBERS.—106.

(Number limited to one hundred and thirty.)

CLASS I.—*Mathematical and Physical Sciences*.—32.SECTION I.—*Mathematics and Astronomy*.—9.

Arthur Stanley Eddington	Cambridge, England
Jacques Salomon Hadamard	Paris
Godfrey Harold Hardy	Cambridge, England
Ejnar Hertzsprung	Leyden
Tullio Levi-Civita	Rome
Charles Emile Picard	Paris
Willem de Sitter	Leyden
Charles Jean de la Vallée Poussin	Louvain
Hermann Weyl	Zürich

CLASS I., SECTION II.—*Physics*.—9.

Vilhelm Frimann Koren Bjerknes	Oslo
Albert Einstein	Berlin
James Franck	Berlin
Abram F. Joffé	Leningrad
Sir Joseph Larmor	Cambridge, England
Friedrich Paschen	Charlottenburg
Max Planck	Berlin
Sir Ernest Rutherford	Cambridge, England
Sir Joseph John Thomson	Cambridge, England

CLASS I., SECTION III.—*Chemistry*.—7.

Johannes N. Brönsted	Copenhagen
Peter Debye	Zürich
Fritz Haber	Berlin
Henri Louis Le Chatelier	Paris
Archibald Byron Macallum	London, Ontario
Sören Peter Lauritz Sörensen	Copenhagen
Heinrich Wieland	Munich

CLASS I., SECTION IV.—*Technology and Engineering*.—7.

Maurice d'Ocagne	Paris
Ludwig Prandtl	Göttingen
Emil Probst	Karlsruhe
Aurel Stodola	Zürich
Vsevolod Evgenievich Timonoff	Leningrad
William Cawthorne Unwin	London
Karl Willy Wagner	Berlin

CLASS II.—*Natural and Physiological Sciences*.—30.SECTION I.—*Geology, Mineralogy, and Physics of the Globe*.—9.

Frank Dawson Adams	Montreal
Charles Barrois	Lille
Waldemar Christofer Brögger	Oslo
Léon William Collet	Geneva
Viktor Goldschmidt	Heidelberg
Albert Heim	Zürich
Emmanuel de Margerie	Paris
Gustaf Adolf Frederik Molengraaff	Delft
Sir William Napier Shaw	London

CLASS II., SECTION II.—*Botany*.—7.

Frederick Orpen Bower	Ripon
Ludwig Diels	Berlin
Kingo Miyabe	Sapporo, Japan
Alfred Barton Rendle	London
Otto Renner	Jena
Albert Charles Seward	Cambridge, England
Hugo de Vries	Luntern

CLASS II., SECTION III.—*Zoology and Physiology*.—8.

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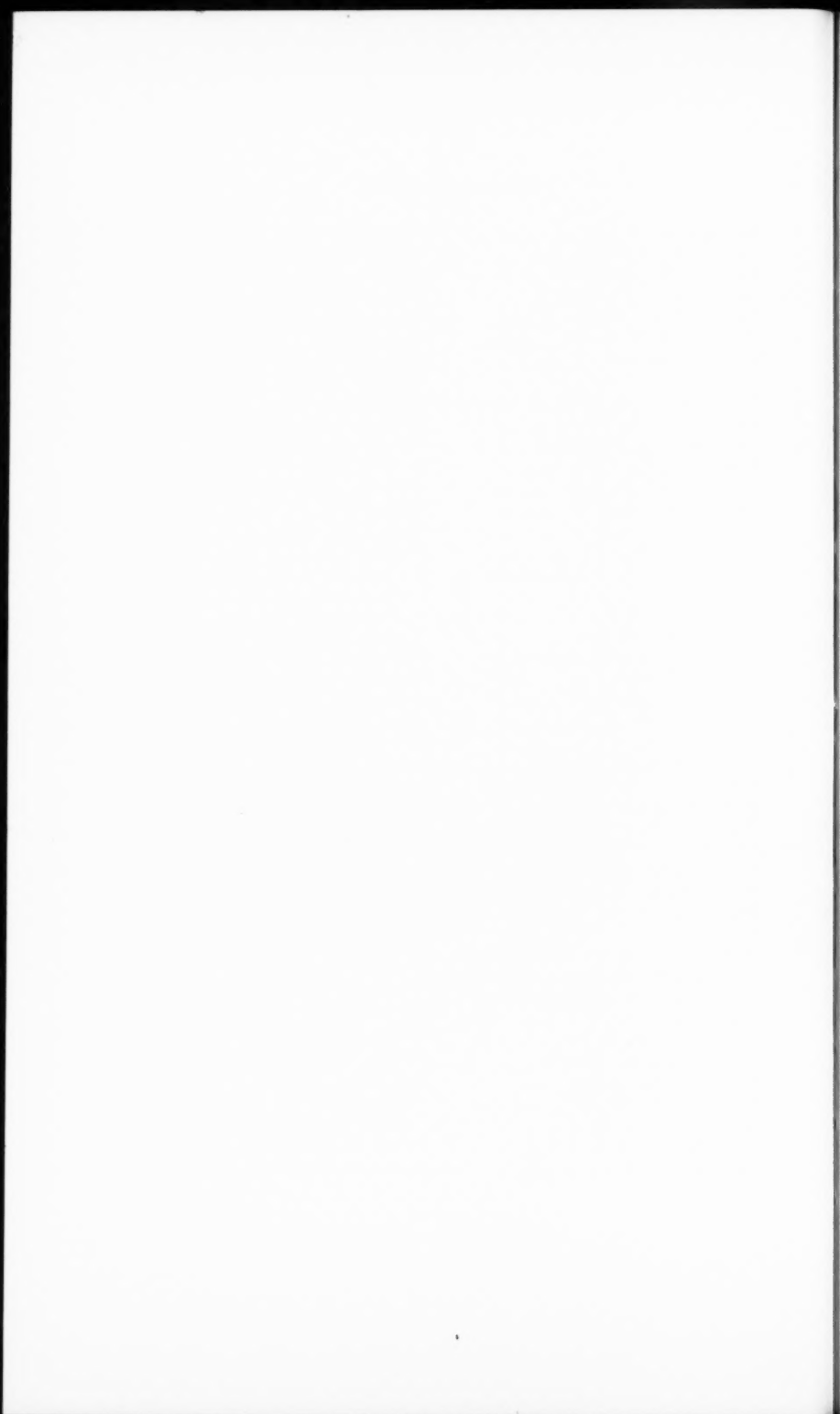
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 Noyes, G. R. F, IV: 3
 Noyes, W. A. F, I: 3
 Noyes, W. A., Jr. F, I: 3
 Nuttall, G. H. F. FHM, II: 3
 O'Brien, R. L. F, III: 4
 d'Ocagne, M. FHM, I: 4
 O'Connell, W. H. F, IV: 1
 O'Connor, J. F, IV: 1
 Oertel, H. FHM, IV: 3
 Ogburn, W. F. F, III: 3
 Oldenberg, O. F, I: 2
 Olmsted, F. L. F, I: 4
 Osborn, H. F. F, II: 3
 Osgood, R. B. F, II: 4
 Osterhout, W. J. V. F, II: 2
 Page, C. H. F, IV: 4
 Palache, C. F, II: 1
 Palmer, G. H. F, IV: 1
 Park, C. E. F, IV: 1
 Park, C. F. F, I: 4
 Parker, G. H. F, II: 3
 Parker, H. F, III: 1
 Parks, L. F, IV: 1
 Parry, M. F, IV: 3
 Paschen, F. FHM, I: 2
 Peabody, F. G. F, IV: 1
 Pearl, R. F, II: 3
 Pearse, L. F, I: 4
 Pearson, K. FHM, IV: 2
 Pease, A. S. F, IV: 3
 Peers, E. A. FHM, IV: 4
 Peirce, G. J. F, II: 2
 Pender, H. F, I: 4
 Pepper, G. W. F, III: 1
 Perkins, T. N. F, III: 4
 Persons, W. M. F, III: 3
 Peters, A. J. F, III: 4
 Phelps, W. L. F, IV: 4
 Phillips, H. B. F, I: 1
 Phillips, J. C. F, II: 3
 Philpott, A. J. F, IV: 4
 Picard, C. E. FHM, I: 1
 Pickard, G. W. F, I: 4
 Pickering, W. H. F, I: 1
 Pidal, R. M. FHM, IV: 3
 Pierce, G. W. F, I: 2
 Pigou, A. C. FHM, III: 3
 Pilsbry, H. A. F, II: 3
 Pirenne, H. FHM, IV: 2
 Planek, M. FHM, I: 2
 Poincaré, R. FHM, III: 4
 Pollock, Sir F. FHM, III: 1
 Poor, C. L. F, I: 1
 Porter, A. K. F, IV: 4
 Post, C. R. F, IV: 4
 Pound, R. F, III: 1
 Powell, T. R. F, III: 1
 Prandtl, L. FHM, I: 4
 Pratt, F. H. F, II: 3
 Pratt, J. H. F, II: 4
 Prescott, S. C. F, I: 3
 Probst, E. FHM, I: 4
 Pupin, M. I. F, I: 2
 Putnam, H. F, III: 4
 Rabaud, H. FHM, IV: 4
 Rand, E. K. F, IV: 3
 Rand, H. W. F, II: 3
 Rapport, D. F, II: 3
 Raymond, P. E. F, II: 1
 Reading, Lord. FHM, III: 4
 Redfield, A. C. F, II: 3
 Redlich, J. FHM, III: 1
 Regan, C. T. FHM, II: 3
 Rehder, A. F, II: 2
 Reisner, G. A. F, IV: 2
 Rendle, A. B. FHM, II: 2
 Renner, O. FHM, II: 2
 Richards, R. H. F, I: 3
 Richardson, R. G. D. F, I: 1
 Ripley, A. L. F, III: 4
 Rist, C. FHM, III: 3
 Ritter, W. E. F, II: 3
 Roberts, O. F, III: 1
 Robinson, B. L. F, II: 2
 Robinson, E. A. F, IV: 4

- Robinson, F. N. F, IV: 3
 Rogers, A. F. F, II: 1
 Roorbach, G. B. F, III: 3
 Root, E. F, III: 1
 Root, R. K. F, IV: 3
 Rosanoff, M. A. F, I: 3
 Rosenau, M. J. F, II: 4
 Ross, D. W. F, IV: 4
 Rostovtzeff, M. I. F, IV: 2
 Rowe, A. W. F, I: 3
 Rowe, L. S. F, III: 3
 Rugg, A. P. F, III: 1
 Russell, G. E. F, I: 4
 Russell, H. N. F, I: 1
 Rutherford, Sir E. FHM, I: 2
 Ruthven, A. G. F, II: 3
 Rutledge, G. F, I: 1
 Ryan, J. H. F, IV: 1
 Sachs, P. J. F, IV: 4
 Sarton, G. F, IV: 2
 Saunders, F. A. F, I: 2
 Sauveur, A. F, I: 4
 Sax, K. F, II: 2
 Sayles, R. W. F, II: 1
 Sayre, F. B. F, III: 1
 Scatchard, G. F, I: 3
 Schaller, W. T. F, II: 1
 Schevill, R. F, IV: 3
 Schlesinger, A. M. F, IV: 2
 Schlesinger, F. F, I: 1
 Schuchert, C. F, II: 1
 Schumb, W. C. F, I: 3
 Scott, A. W. F, III: 1
 Scott, W. B. F, II: 1
 Sedgwick, E. F, IV: 4
 Sedgwick, H. D. F, IV: 4
 Sellards, A. W. F, II: 4
 Setchell, W. A. F, II: 2
 Seward, A. C. FHM, II: 2
 Seymour, A. B. F, II: 2
 Shapley, H. F, I: 1
 Shaw, Sir W. N. FHM, II: 1
 Shepley, H. R. F, IV: 4
 Sherrill, H. K. F, IV: 1
 Sherrill, M. S. F, I: 3
 Sherrington, Sir C. S. FHM, II: 4
 Shimer, H. W. F, II: 1
 Sitter, W. de. FHM, I: 1
 Slater, J. C. F, I: 2
 Slipper, V. M. F, I: 1
 Slocum, F. F, I: 1
 Smith, H. E. F, IV: 3
 Smith, H. M. F, I: 3
 Smith, J., Jr. F, III: 4
 Smith, P. F, III: 4
 Smith, T. F, II: 4
 Smyth, H. L. F, I: 4
 Smyth, H. W. F, IV: 3
 Snyder, C. F, III: 3
 Snyder, V. F, I: 1
 Sørensen, S. P. L. FHM, I: 3
 Sollmann, T. H. F, II: 4
 Sorokin, P. A. F, III: 3
 Sperry, W. L. F, IV: 1
 Spinden, H. J. F, IV: 2
 Spofford, C. M. F, I: 4
 Sprague, O. M. W. F, III: 3
 Stafford, R. H. F, IV: 1
 Stakman, E. C. F, II: 2
 Stebbins, J. F, I: 1
 Stein, Sir A. FHM, IV: 2
 Stephenson, F. B. F, IV: 3
 Stetson, H. T. F, I: 1
 Stevens, J. F. F, I: 4
 Stieglitz, J. O. F, I: 3
 Stiles, C. W. F, II: 4
 Stiles, P. G. F, II: 3
 Stodola, A. FHM, I: 4
 Stone, J. S. F, I: 2
 Strong, R. P. F, II: 4
 Struik, D. J. F, I: 1
 Sturgis, W. C. F, II: 2
 Sumner, J. O. F, IV: 2
 Taber, H. F, I: 1
 Talbot, F. B. F, II: 4
 Tamarkin, J. D. F, I: 1
 Tarbell, E. C. F, IV: 4
 Taussig, F. W. F, III: 3
 Taylor, C. H. F, III: 4
 Taylor, C. H. F, IV: 2

- Taylor, F. B. F, II: 1
Terry, C. S. FHM, IV: 2
Thayer, J. E. F, II: 3
Theiler, Sir A. FHM, II: 4
Thomas, F. W. FHM, IV: 3
Thompson, D'A. W. FHM, II: 3
Thompson, M. deK. F, I: 2
Thomson, E. F, I: 2
Thomson, Sir J. J. FHM, I: 2
Thomson, W. F, IV: 3
Thurston, E. S. F, III: 1
Timonoff, V. E. FHM, I: 4
Tolman, R. C. F, I: 3
Torrey, C. C. F, IV: 2
Tozzer, A. M. F, IV: 2
Trelease, W. F, II: 2
Trevelyan, G. M. FHM, IV: 2
Tucker, D. S. F, III: 3
Tyler, H. W. F, I: 1
Tyzzer, E. E. F, II: 4
Unwin, W. C. FHM, I: 4
Vallarta, M. S. F, I: 2
Vallée Poussin, C. J. de la. FHM, I: 1
Vaughan, T. W. F, II: 1
Veblen, O. F, I: 1
Verhoeff, F. H. F, II: 4
Vries, H. de. FHM, II: 2
Wadsworth, E. F, III: 4
Wagner, K. W. FHM, I: 4
Wait, W. C. F, III: 1
Walker, C. H. F, IV: 4
Walker, W. H. F, I: 3
Walsh, J. L. F, I: 1
Wambaugh, E. F, III: 1
Warner, E. P. F, I: 4
Warren, C. H. F, II: 1
Washburn, H. B. F, IV: 1
Watson, J. B. F, IV: 1
Wearn, J. T. F, II: 4
Weatherby, C. A. F, II: 2
Webster, D. L. F, I: 2
Webster, E. S. F, III: 4
Welch, W. H. F, II: 4
Wells, A. E. F, I: 4
Weston, R. S. F, I: 4
Weston, W. H. F, II: 2
Wetmore, R. H. F, II: 2
Weyl, H. FHM, I: 1
Weyssse, A. W. F, II: 3
Whatmough, J. F, IV: 3
Wheeler, W. M. F, II: 3
White, B. F, II: 4
White, D. F, II: 1
Whitehead, A. N. F, I: 1
Whitlock, H. P. F, II: 1
Whitman, E. A. F, III: 1
Whitney, W. R. F, I: 3
Wickersham, G. W. F, III: 1
Widder, D. V. F, I: 1
Wieland, H. FHM, I: 3
Wilkins, E. H. F, IV: 3
Williams, F. H. F, II: 4
Williams, J. H. F, III: 3
Williams, R. S. F, I: 3
Willis, B. F, II: 1
Willoughby, W. F. F, III: 2
Willoughby, W. W. F, III: 2
Wilson, E. B. F, II: 3
Wilson, E. B. F, I: 2
Wilson, G. G. F, III: 2
Winship, G. P. F, IV: 4
Winslow, A. F, II: 1
Wissler, C. F, IV: 2
Wister, O. F, IV: 4
Wolbach, S. B. F, II: 4
Wolff, J. E. F, II: 1
Wood, R. W. F, I: 2
Woodman, A. G. F, I: 3
Woods, F. A. F, II: 3
Woods, F. S. F, I: 1
Woods, J. H. F, IV: 1
Worcester, J. R. F, I: 4
Wright, C. H. C. F, IV: 4
Wright, F. E. F, II: 1
Wright, Q. F, III: 2
Yerkes, R. M. F, IV: 1
Young, B. L. F, III: 4
Zeleny, J. F, I: 2
Zinsser, H. F, II: 4



STATUTES AND STANDING VOTES.

STATUTES.

Adopted November 8, 1911: amended May 8, 1912, January 8, and May 14, 1913, April 14, 1915, April 12, 1916, April 10, 1918, May 14, 1919, February 8, April 12, and December 13, 1922, February 14, March 14, and October 10, 1923, March 10, 1926, May 9, 1928, April 8, 1931, and November 11, 1931.

CHAPTER I.

THE CORPORATE SEAL.

ARTICLE 1. The Corporate Seal of the Academy shall be as here depicted:



ARTICLE 2. The Recording Secretary shall have the custody of the Corporate Seal.

See Chap. v, art. 3; chap. vi, art. 2.

CHAPTER II.

FELLOWS AND FOREIGN HONORARY MEMBERS AND DUES.

ARTICLE 1. The Academy consists of Fellows, who are either citizens or residents of the United States of America, and Foreign Honorary Members. They are arranged in four Classes, according to the Arts and Sciences in which they are severally proficient, and each Class is divided into four Sections, namely:

CLASS I. *The Mathematical and Physical Sciences*

- Section 1. Mathematics and Astronomy
- Section 2. Physics
- Section 3. Chemistry
- Section 4. Technology and Engineering

CLASS II. *The Natural and Physiological Sciences*

- Section 1. Geology, Mineralogy, and Physics of the Globe
- Section 2. Botany
- Section 3. Zoölogy and Physiology
- Section 4. Medicine and Surgery

CLASS III. *The Social Arts*

- Section 1. Jurisprudence
- Section 2. Government, International Law, and Diplomacy
- Section 3. Economics and Sociology
- Section 4. Administration and Affairs

CLASS IV. *The Humanities*

- Section 1. Theology, Philosophy, and Psychology
- Section 2. History, Archæology, and Anthropology
- Section 3. Philology
- Section 4. The Fine Arts and Belles Lettres

ARTICLE 2. The number of Fellows shall not exceed Eight hundred, of whom not more than Six hundred shall be residents of Massachusetts, nor shall there be more than Two hundred and ten in any one Class.

ARTICLE 3. The number of Foreign Honorary Members shall not exceed One hundred and thirty. They shall be chosen from among

citizens of foreign countries most eminent for their discoveries and attainments in any of the Classes above enumerated. There shall not be more than Thirty-five in any one Class.

ARTICLE 4. If any person, after being notified of his election as Fellow, shall neglect for six months to accept in writing, or, if a Fellow resident within fifty miles of Boston shall neglect to pay his Admission Fee, his election shall be void; and if any Fellow resident within fifty miles of Boston shall neglect to pay his Annual Dues for six months after they are due, provided his attention shall have been called to this Article of the Statutes in the meantime, he shall cease to be a Fellow; but the Council may suspend the provisions of this Article for a reasonable time.

With the previous consent of the Council, the Treasurer may dispense (*sub silentio*) with the payment of the Admission Fee or of the Annual Dues or both whenever he shall deem it advisable. In the case of officers of the Army or Navy who are out of the Commonwealth on duty, payment of the Annual Dues may be waived during such absence if continued during the whole financial year and if notification of such expected absence be sent to the Treasurer. Upon similar notification to the Treasurer, similar exemption may be accorded to Fellows subject to Annual Dues, who may temporarily remove their residence for at least two years to a place more than fifty miles from Boston.

If any person elected a Foreign Honorary Member shall neglect for six months after being notified of his election to accept in writing, his election shall be void.

See Chap. vii, art. 2.

ARTICLE 5. Every Fellow resident within fifty miles of Boston hereafter elected shall pay an Admission Fee of Ten dollars, unless previously as an Associate he has paid an Admission Fee of like amount.

Every Fellow resident within fifty miles of Boston shall, and others may, pay such Annual Dues, not exceeding Fifteen dollars, as shall be voted by the Academy at each Annual Meeting, when they shall become due; but any Fellow shall be exempt from the annual payment if, at any time after his admission, he shall pay into the treasury Two hundred dollars in addition to his previous payments. Any

Fellow shall also be exempt from Annual Dues who has paid such dues for forty years, or, having attained the age of seventy-five has paid dues for twenty-five years.

All Commutations of the Annual Dues shall be and remain permanently founded, the interest only to be used for current expenses.

Any fellow not previously subject to Annual Dues who takes up his residence within fifty miles of Boston, shall pay to the Treasurer within three months thereafter Annual Dues for the current year, failing which his Fellowship shall cease; but the Council may suspend the provisions of this Article for a reasonable time.

Only Fellows who pay Annual Dues or have commuted them may hold office in the Academy or serve on the Standing Committees or vote at meetings.

ARTICLE 6. Fellows who pay or have commuted the Annual Dues and Foreign Honorary Members shall be entitled to receive gratis one copy of all Publications of the Academy issued after their election.

See Chap. xi, art. 2.

ARTICLE 7. Diplomas signed by the President and the Vice-President of the Class to which the member belongs, and countersigned by the Secretaries, shall be given to Foreign Honorary Members and to Fellows on request.

ARTICLE 8. If, in the opinion of a majority of the entire Council, any Fellow or Foreign Honorary Member shall have rendered himself unworthy of a place in the Academy, the Council shall recommend to the Academy the termination of his membership; and if three-fourths of the Fellows present, out of a total attendance of not less than fifty at a Stated Meeting, or at a Special Meeting called for the purpose, shall adopt this recommendation, his name shall be stricken from the Roll.

See Chap. iii; chap. vi, art. 1; chap. x, art. 1, 7; chap. xi, art. 2.

CHAPTER III.

ELECTION OF FELLOWS AND FOREIGN HONORARY MEMBERS.

The procedure in the election of Fellows and Foreign Honorary Members shall be as follows:

Nominations to Fellowship or Foreign Honorary Membership in any Section must be signed by Two Fellows of that Section, or by three Fellows of any Sections, and sent to the Corresponding Secretary accompanied by a statement of the qualifications of the nominee and brief biographical data.

Notice shall be sent to every Fellow not later than the fifteenth of January in each year, reminding him that all nominations must be in the hands of the Corresponding Secretary before the fifteenth of February following.

A list of the nominees, giving a brief account of each, with the names of the nominators, shall be sent to every Fellow with a request that he return the list with such confidential comments and indications of preference as he may choose to make.

All the nominations, with any comments thereon and with expressions of preference on the part of the Fellows, shall be referred to the appropriate Class Committees, which shall canvass them, and report their recommendations in writing to the Council before the Stated Meeting of the Academy in April.

Elections of Fellows and Foreign Honorary Members shall be made by the Council before the Annual Meeting in May, and announced at that meeting.

Persons nominated in any year, but not elected, may be carried over to the list of nominees for the next year at the discretion of the Council, but shall not be further continued unless renominated.

See Chap. ii; chap. vi, art. 1; chap. x, art. 1.

CHAPTER IV.

OFFICERS.

ARTICLE 1. The Officers of the Academy shall be a President (who shall be Chairman of the Council), four Vice-Presidents (one from each Class), a Corresponding Secretary (who shall be Secretary of the Council), a Recording Secretary, a Treasurer, a Librarian, and an Editor, all of whom shall be elected by ballot at the Annual Meeting, and shall hold their respective offices for one year, and until others are duly chosen and installed.

There shall be also sixteen Councillors, one from each Section of

each Class. At each Annual Meeting four Councillors, one from each Class, shall be elected by ballot to serve for the full term of four years and until others are duly chosen and installed. The same Fellow shall not be eligible for two successive terms.

The Councillors, with the other officers previously named, and the Chairman of the House Committee, *ex officio*, shall constitute the Council.

See Chap. xi, art. 1.

ARTICLE 2. If any officer be unable, through death, absence, or disability, to fulfill the duties of his office, or if he shall resign, his place may be filled by the Council in its discretion for any part or the whole of the unexpired term.

ARTICLE 3. At the Stated Meeting in March, the President shall appoint a Nominating Committee of Four Fellows having the right to vote, one from each Class. This Committee shall prepare a list of nominees for the several offices to be filled, and for the Standing Committees, and file it with the Recording Secretary not later than four weeks before the Annual Meeting.

See Chap. vi, art. 2.

ARTICLE 4. Independent nominations for any office, if signed by at least twenty Fellows having the right to vote, and received by the Recording Secretary not less than ten days before the Annual Meeting, shall be inserted in the call therefor, and shall be mailed to all the Fellows having the right to vote.

See Chap. vi, art. 2.

ARTICLE 5. The Recording Secretary shall prepare for use in voting at the Annual Meeting a ballot containing the names of all persons duly nominated for office.

CHAPTER V.

THE PRESIDENT.

ARTICLE 1. The President, or in his absence the senior Vice-President present (seniority to be determined by length of continuous fellowship in the Academy), shall preside at all meetings of the Acad-

emy. In the absence of all these officers, a Chairman of the meeting shall be chosen by ballot.

ARTICLE 2. Unless otherwise ordered, all Committees which are not elected by ballot shall be appointed by the presiding officer.

ARTICLE 3. Any deed or writing to which the Corporate Seal is to be affixed, except leases of real estate, shall be executed in the name of the Academy by the President or, in the event of his death, absence, or inability, by one of the Vice-Presidents, when thereto duly authorized.

See Chap. ii, art. 7; chap. iv, art. 1, 3; chap. vi, art. 2; chap. vii, art. 1; chap. x, art. 6; chap. xi, art. 1, 2; chap. xii, art. 1.

CHAPTER VI.

THE SECRETARIES.

ARTICLE 1. The Corresponding Secretary shall conduct the correspondence of the Academy and of the Council, recording or making an entry of all letters written in its name, and preserving for the files all official papers which may be received. At each meeting of the Council he shall present the communications addressed to the Academy which have been received since the previous meeting, and at the next meeting of the Academy he shall present such as the Council may determine.

He shall notify all persons who may be elected Fellows or Foreign Honorary Members, send to each a copy of the Statutes, and on their acceptance issue the proper Diploma. He shall also notify all meetings of the Council; and in case of the death, absence, or inability of the Recording Secretary he shall notify all meetings of the Academy.

Under the direction of the Council, he shall keep a List of the Fellows and Foreign Honorary Members, arranged in their several Classes and Sections. It shall be printed annually and issued as of the first day of July.

See Chap. ii, art. 7; chap. iii; chap. iv, art. 1; chap. x, art. 6; chap. xi, art. 1; chap. xii, art. 1.

ARTICLE 2. The Recording Secretary shall have the custody of the Charter, Corporate Seal, Archives, Statute-Book, Journals, and all literary papers belonging to the Academy.

Fellows borrowing such papers or documents shall receipt for them to their custodian.

The Recording Secretary shall attend the meetings of the Academy and keep a faithful record of the proceedings with the names of the Fellows present; and after each meeting is duly opened, he shall read the record of the preceding meeting.

He shall notify the meetings of the Academy to each Fellow and by mail at least seven days beforehand, and in his discretion may also cause the meetings to be advertised; he shall apprise Officers and Committees of their election or appointment, and inform the Treasurer of appropriations of money voted by the Academy.

After all elections, he shall insert in the Records the names of the Fellows by whom the successful nominees were proposed.

He shall send the Report of the Nominating Committee in print to every Fellow having the right to vote at least three weeks before the Annual Meeting.

See Chap. iv, art. 3.

In the absence of the President and of the Vice-Presidents he shall, if present, call the meeting to order, and preside until a Chairman is chosen.

See Chap. 1; chap. ii, art. 7; chap. iv, art. 3, 4, 5; chap. x, art. 6; chap. xi, art. 1, 2; chap. xii, art. 1, 3.

ARTICLE 3. The Secretaries, with the Editor, shall have authority to publish such of the records of the meetings of the Academy as may seem to them likely to promote its interests.

CHAPTER VII.

THE TREASURER AND THE TREASURY.

ARTICLE 1. The Treasurer shall collect all money due or payable to the Academy, and all gifts and bequests made to it. He shall pay all bills due by the Academy, when approved by the proper officers, except those of the Treasurer's office, which may be paid without such approval; in the name of the Academy he shall sign all leases of real estate; and, with the written consent of a member of the Committee on Finance, he shall make all transfers of stocks, bonds, and other securities belonging to the Academy, all of which shall be in his official custody.

He shall keep a faithful account of all receipts and expenditures, submit his accounts annually to the Auditing Committee, and render them at the expiration of his term of office, or whenever required to do so by the Academy or the Council.

He shall keep separate accounts of the income of the Rumford Fund, and of all other special Funds, and of the Appropriation thereof, and render them annually.

His accounts shall always be open to the inspection of the Council.

ARTICLE 2. He shall report annually to the Council at its March meeting on the expected income of the various Funds and from all other sources during the ensuing financial year. He shall also report the names of all Fellows who may be then delinquent in the payment of their Annual Dues.

ARTICLE 3. He shall give such security for the trust reposed in him as the Academy may require.

ARTICLE 4. With the approval of a majority of the Committee on Finance, he may appoint an Assistant Treasurer to perform his duties, for whose acts, as such assistant, he shall be responsible; or, with like approval and responsibility, he may employ any Trust Company doing business in Boston as his agent for the same purpose, the compensation of such Assistant Treasurer or agent to be fixed by the Committee on Finance and paid from the Funds of the Academy.

ARTICLE 5. At the Annual Meeting he shall report in print all his official doings for the preceding year, stating the amount and condition of all the property of the Academy entrusted to him, and the character of the investments.

ARTICLE 6. The Financial Year of the Academy shall begin with the first day of April.

ARTICLE 7. No person or committee shall incur any debt or liability in the name of the Academy, unless in accordance with a previous vote and appropriation therefor by the Academy or the Council, or sell or otherwise dispose of any property of the Academy, except cash or invested funds, without previous consent and approval of the Council.

See Chap. ii, art. 4, 5; chap. vi, art. 2; chap. x, art. 6; chap. xi, art. 1, 2, 3; chap. xii, art. 1.

CHAPTER VIII.

THE LIBRARIAN AND THE LIBRARY.

ARTICLE 1. The Librarian shall have charge of the printed books, keep a correct catalogue thereof, and provide for their delivery from the Library.

At the Annual Meeting, as Chairman of the Committee on the Library, he shall make a Report on its condition.

ARTICLE 2. In conjunction with the Committee on the Library he shall have authority to expend such sums as may be appropriated by the Academy for the purchase of books, periodicals, etc., and for defraying other necessary expenses connected with the Library.

ARTICLE 3. All books procured from the income of the Rumford Fund or of other special Funds shall contain a book-plate expressing the fact.

ARTICLE 4. Books taken from the Library shall be receipted for to the Librarian or his assistant.

ARTICLE 5. Books shall be returned in good order, regard being had to necessary wear with good usage. If any book shall be lost or injured, the Fellow to whom it stands charged shall replace it by a new volume or by a new set, if it belongs to a set, or pay the current price thereof to the Librarian, whereupon the remainder of the set, if any, shall be delivered to the Fellow so paying, unless such remainder be valuable by reason of association.

ARTICLE 6. All books shall be returned to the Library for examination at least one week before the Annual Meeting.

ARTICLE 7. The Librarian shall have the custody of the Publications of the Academy. With the advice and consent of the President, he may effect exchanges with other associations.

See Chap. ii, art. 6; chap. xi, art. 1, 2.

CHAPTER IX.

THE EDITOR AND THE PUBLICATIONS.

ARTICLE 1. The Editor shall have charge of the conduct through the press of the Proceedings and the Memoirs, and all correspondence

relative thereto, and shall have power to fix the price at which individual numbers of the Proceedings and Memoirs are sold.

ARTICLE 2. In conjunction with the Committee of Publication, he shall have authority to expend such sums as may be appropriated by the Academy for printing the publications and for defraying other expenses therewith connected.

ARTICLE 3. All publications which are financed in whole or in part from the income of the Rumford Fund or from the income of other special funds, and all publications of work done with the aid of the Rumford Fund or other special funds, shall contain a conspicuous statement of this fact.

ARTICLE 4. Two hundred extra copies of each paper printed in the Proceedings or Memoirs shall be placed at the disposal of the author without charge.

If, on account of the number of communications offered for publication, it shall be necessary to decline for publication communications otherwise acceptable, members of the Academy shall be given preference in each of the several Classes over non-members; but whenever it shall be necessary to exercise this preference, the Editor shall inform the Council of the fact.

See Chap. iv, art. 1; chap. vi, art. 3; chap. x, art. 6; chap. xi, art. 4.

CHAPTER X.

THE COUNCIL.

ARTICLE 1. The Council shall exercise a discreet supervision over all nominations and elections to membership, and in general supervise all the affairs of the Academy not explicitly reserved to the Academy as a whole or entrusted by it or by the Statutes to standing or special committees.

It shall consider all nominations duly sent to it by any Class Committee, and act upon them in accordance with the provisions of Chapter III.

With the consent of the Fellow interested, it shall have power to make transfers between the several Sections, reporting its action to the Academy.

See Chap. iii, art. 2, 3; chap. xi, art. 1.

ARTICLE 2. Nine members shall constitute a quorum.

ARTICLE 3. It shall establish rules and regulations for the transaction of its business, and provide all printed and engraved blanks and books of record.

ARTICLE 4. It shall act upon all resignations of officers, and all resignations and forfeitures of Fellowship; and cause the Statutes to be faithfully executed.

It shall appoint all agents and subordinates not otherwise provided for by the Statutes, prescribe their duties, and fix their compensation. They shall hold their respective positions during the pleasure of the Council.

ARTICLE 5. It may appoint, for terms not exceeding one year, and prescribe the functions of, such committees of its number, or of the Fellows of the Academy, as it may deem expedient, to facilitate the administration of the affairs of the Academy or to promote its interests.

ARTICLE 6. At its March meeting it shall receive reports from the President, the Secretaries, the Treasurer, and the Standing Committees, on the appropriations severally needed for the ensuing financial year. At the same meeting the Treasurer shall report on the expected income of the various Funds and from all other sources during the same year.

A report from the Council shall be submitted to the Academy, for action, at the March meeting, recommending the appropriation which in the opinion of the Council should be made.

On the recommendation of the Council, special appropriations may be made at any Stated Meeting of the Academy, or at a Special Meeting called for the purpose.

See Chap. xi, art. 3.

ARTICLE 7. After the death of a Fellow or Foreign Honorary Member, it shall appoint a member of the Academy to prepare a biographical notice for publication in the Proceedings.

ARTICLE 8. It shall report at every meeting of the Academy such business as it may deem advisable to present.

See Chap. ii, art. 4, 5, 8; chap. iv, art. 1, 2; chap. vi, art. 1; chap. vii, art. 1; chap. xii, art. 1, 4.

CHAPTER XI.

STANDING COMMITTEES.

ARTICLE 1. The Class Committee of each Class shall consist of the Vice-President, who shall be chairman, and the four Councillors of the Class, together with such other officer or officers annually elected as may belong to the Class. It shall consider nominations to Fellowship in its own Class, and report in writing to the Council such as may receive at a Class Committee Meeting a majority of the votes cast, provided at least three shall have been in the affirmative.

See Chap. iii, art. 2.

ARTICLE 2. At the Annual Meeting the following Standing Committees shall be elected by ballot to serve for the ensuing year:

(i) *The Committee on Finance*, to consist of four Fellows, who, through the Treasurer, shall have full control and management of the funds and trusts of the Academy, with the power of investing the funds and changing the investments thereof in their discretion.

See Chap. iv, art. 3; chap. vii, art. 1, 4; chap. x, art. 6.

(ii) *The Rumford Committee*, to consist of seven Fellows, who shall report to the Academy on all applications and claims for the Rumford Premium. It alone shall authorize the purchase of books, publications and apparatus at the charge of the income from the Rumford Fund, and generally shall see to the proper execution of the trust.

See Chap. iv, art. 3; chap. x, art. 6.

(iii) *The Cyrus Moors Warren Committee*, to consist of seven Fellows, who shall consider all applications for appropriations from the income of the Cyrus Moors Warren Fund, and generally shall see to the proper execution of the trust.

See Chap. iv, art. 3; chap. x, art. 6.

(iv) *The Committee of Publication*, to consist of the Editor, *ex officio*, as Chairman, and four other Fellows, one from each Class, to whom all communications submitted to the Academy for publication shall be referred, and to whom the printing of the Proceedings and the Memoirs shall be entrusted.

It shall fix the price at which volumes of the publications shall be sold; but Fellows may be supplied at half price with volumes which

may be needed to complete their sets, but which they are not entitled to receive gratis.

It shall determine when the pressure of material offered for publication makes it necessary to give preference to members of the Academy as compared with non-members, or to give priority to certain members as compared with others, and to what extent this preference or priority shall be applied in each of the four Classes, to the end that a proper balance of the facilities of publication with respect to subject matter and authors may be maintained.

See Chap. iv, art. 3; chap. vi, art. 1, 3; chap. ix, chap. x, art. 6.

(v) *The Committee on the Library*, to consist of the Librarian, *ex officio*, as Chairman, and four other Fellows, one from each Class, who shall examine the Library and make an annual report on its condition and management.

See Chap. iv, art. 3; chap. viii, art. 1, 2; chap. x, art. 6.

(vi) *The House Committee*, to consist of four Fellows, who shall have charge of all expenses connected with the House, including the general expenses of the Academy not specifically assigned to the care of other Committees or Officers.

See Chap. iv, art. 1, 3; chap. x, art. 6.

(vii) *The Committee on Meetings*, to consist of the President, the Recording Secretary, and four other Fellows, who shall have charge of plans for meetings of the Academy.

See Chap. iv, art. 3; chap. x, art. 6.

(viii) *The Auditing Committee*, to consist of two Fellows, who shall audit the accounts of the Treasurer, with power to employ an expert and to approve his bill.

See Chap. iv, art. 3; chap. vii, art. 1; chap. x, art. 6.

ARTICLE 3. The Standing Committees shall report annually to the Council in March on the appropriations severally needed for the ensuing financial year; and all bills incurred on account of these Committees, within the limits of the several appropriations made by the Academy, shall be approved by their respective Chairmen.

In the absence of the Chairman of any Committee, bills may be approved by any member of the Committee whom he shall designate for the purpose.

See Chap. vii, art. 1, 7; chap. x, art. 6.

CHAPTER XII.

MEETINGS, COMMUNICATIONS, AND AMENDMENTS.

ARTICLE 1. There shall be annually eight Stated Meetings of the Academy, namely, on the second Wednesday of October, November, December, January, February, March, April, and May. Only at these meetings, or at adjournments thereof regularly notified, or at Special Meetings called for the purpose, shall appropriations of money be made or amendments of the Statutes or Standing Votes be effected.

The Stated Meeting in May shall be the Annual Meeting of the Corporation.

Special Meetings shall be called by either of the Secretaries at the request of the President, of a Vice-President, of the Council, or of ten Fellows having the right to vote; and notifications thereof shall state the purpose for which the meeting is called.

A meeting for receiving and discussing literary or scientific communications may be held on the fourth Wednesday of each month, excepting July, August, and September; but no business shall be transacted at said meetings.

ARTICLE 2. Twenty-five Fellows having the right to vote shall constitute a quorum for the transaction of business at Stated or Special Meetings. Eighteen Fellows shall be sufficient to constitute a meeting for literary or scientific communications and discussions.

ARTICLE 3. Upon the request of the presiding officer or the Recording Secretary, any motion or resolution offered at any meeting shall be submitted in writing.

ARTICLE 4. No report of any paper presented at a meeting of the Academy shall be published by any Fellow without the consent of the author; and no report shall in any case be published by any Fellow in a newspaper as an account of the proceedings of the Academy without the previous consent and approval of the Council. The Council, in its discretion, by a duly recorded vote, may delegate its authority in this regard to one or more of its members.

ARTICLE 5. No Fellow shall introduce a guest at any meeting of the Academy until after the business has been transacted, and espe-

cially until after the result of the balloting upon nominations has been declared.

ARTICLE 6. The Academy shall not express its judgment on literary or scientific memoirs or performances submitted to it, or included in its Publications.

ARTICLE 7. All proposed Amendments of the Statutes shall be referred to a committee, and on its report, at a subsequent Stated Meeting or at a Special Meeting called for the purpose, two-thirds of the ballot cast, and not less than twenty-five, must be affirmative to effect enactment.

ARTICLE 8. Standing Votes may be passed, amended, or rescinded at a Stated Meeting, or at a Special Meeting called for the purpose, by a vote of two-thirds of the members present. They may be suspended by a unanimous vote.

See Chap. ii, art. 5, 8; chap. iii; chap. iv, art. 3, 4, 5; chap. v, art. 1; chap. vi, art. 1, 2; chap. x, art. 8.

STANDING VOTES.

1. Communications of which notice has been given to either of the Secretaries shall take precedence of those not so notified.

2. Fellows may take from the Library six volumes at any one time, and may retain them for three months, and no longer. Upon special application, and for adequate reasons assigned, the Librarian may permit a larger number of volumes, not exceeding twelve, to be drawn from the Library for a limited period.

3. Works published in numbers, when unbound, shall not be taken from the Hall of the Academy without the leave of the Librarian.

4. The Council, under such rules respecting nominations as it may prescribe, may elect as Associates of the Academy a limited number of men of mark in affairs or of distinguished service in the community.

Associates shall be entitled to the same privileges as Fellows, but shall not have the right to vote.

The admission fee and annual dues of Associates shall be the same as those of Fellows residing within fifty miles of Boston.

5. Communications offered for publication in the Proceedings or Memoirs of the Academy shall not be accepted for publication before the author shall have informed the Committee on Meetings of his readiness, either himself or through some agent, to use such time as the Committee may assign him at such meeting as may be convenient both to him and to the Committee, for the purpose of presenting to the Academy a general statement of the nature and significance of the results contained in his communication.

RUMFORD PREMIUM.

In conformity with the terms of the gift of Sir Benjamin Thompson, Count Rumford, of a certain Fund to the American Academy of Arts and Sciences, and with a decree of the Supreme Judicial Court of Massachusetts for carrying into effect the general charitable intent and purpose of Count Rumford, as expressed in his letter of gift, the Academy is empowered to make from the income of the Rumford Fund, as it now exists, at any Annual Meeting, an award of a gold and a silver medal, being together of the intrinsic value of three hundred dollars, as a Premium to the author of any important discovery or useful improvement in light or heat, which shall have been made and published by printing, or in any way made known to the public, in any part of the continent of America, or any of the American islands; preference always being given to such discoveries as, in the opinion of the Academy, shall tend most to promote the good of mankind; and, if the Academy sees fit, to add to such medals, as a further Premium for such discovery and improvement, a sum of money not exceeding three hundred dollars.

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